

La Scuola Progressive Forest School

Miami, FL | Fall 2023

By: Dayana Valdes

Design Site:

La Scuola Progressive Forest School

7412 Sunset Drive Miami, FL 33143

Area:	2 acres
Location:	Miami, FL, United States
Climate Type:	Sub-tropical
Hardiness Zone:	10B
Rainfall:	5.2 ft per year
Snowfall:	0 cm
Frost-free period:	365 days
Average Temperature:	70.2 °F
Soil:	Sandy Loam
Elevation:	6-9 feet



La Scuola

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Narrative: La Scuola Progressive Forest School: A Reggio Emilia-Inspired Oasis in Miami

Nestled in the heart of Miami, La Scuola stands as a beacon of inspiration and natural wonder in the world of education. With a philosophy deeply rooted in the Reggio Emilia approach, this progressive forest school takes its 130 students on a captivating journey of exploration, conservation, and artistic expression. At La Scuola, the lush outdoors aren't just a backdrop; they are the classroom itself.

A Living Tapestry of Learning

La Scuola is a vibrant community of 25 team members, including 19 dedicated teachers, serving about 130 students across its 10 classrooms. It welcomes students from the ages of 3 months to 8th grade. What sets this school apart is its unwavering commitment to empowering its young learners. Here, children are not just passive recipients of knowledge; they are encouraged to be active participants in shaping their educational environment.



In the school's dedicated atelier, a skilled art teacher guides the children in observing the natural world. Ms. Yemi, the art teacher, loves what she does. She is skilled at connecting with the children and in guiding the children towards connection with their own expression. The children explore the campus and sketch the wildlife that surrounds them. They also create clay sculptures and art pieces using a myriad of mediums.



The dedicated teachers form the backbone of an educational experience that truly nurtures young minds. These educators pay remarkable attention to their students, guiding them through project-based activities that stimulate curiosity and creativity. What sets them apart is their unwavering respect for each student, valuing their voices and ensuring that every child feels heard. An expression of this profound connection can be found in the daily reports sent to parents, featuring intricate narratives enriched with photographs of the children and quotes that encapsulate their experiences throughout the day. La Scuola's teachers don't just encourage feedback from their students; they actively implement some of their ideas, fostering a sense of empowerment and ownership over their education. In this nurturing environment, creativity thrives, and there is no room for punishment. Instead, conflict resolution is achieved through open communication, where feelings are valued, and kindness is a prevailing theme in every classroom.

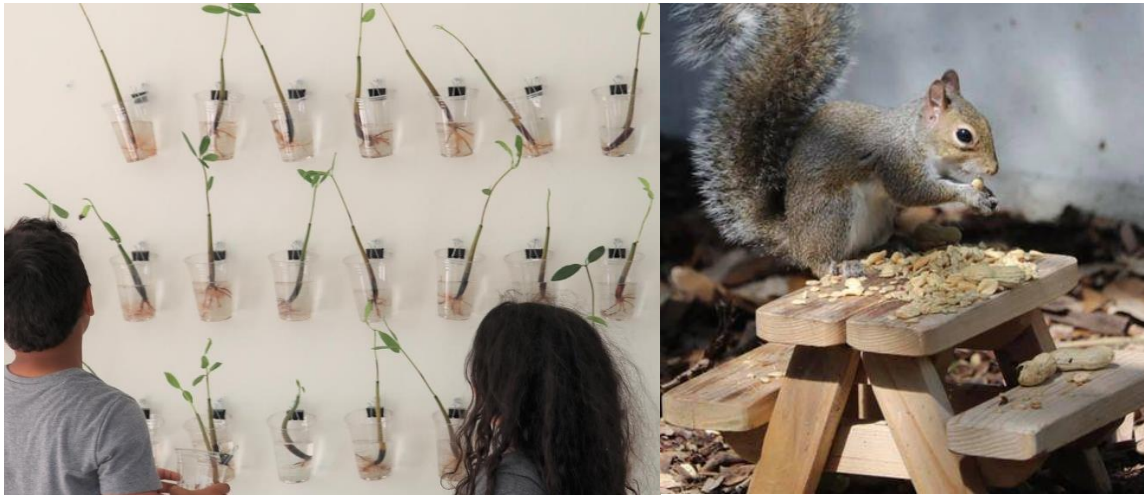


Living Lessons in Nature and Conservation

La Scuola is a sanctuary for the natural world, teeming with life. A chicken coop, home to various chicken breeds, is a living classroom where students learn about animal care and the rewards of sustainable practices. Chickens are often fed from fruits and vegetables grown on site and the chicken eggs are then used in the school's delicious organic lunches, which are cooked by Mima with lots of love. The school also aspires to create a haven for rescued farm animals, such as pigs, goats and cows.



The wall of the main open-air hallway is home to what the students lovingly call the Mangrove Wall, a wall lined with a vertical garden of mangrove seedlings for The Reclamation Project, an eco-art installation whose aim is to repopulate the coastal mangrove populations.



The school also has a butterfly garden full of pollinator friendly plants, a bridge designed by the children, sitting spaces, outdoor book library, and a hammock. Nearby, you can find the Creature City and Lizard City, whimsical spaces adorned with small ceramic houses crafted by the children themselves. These creations beckon bugs and lizards, offering a haven for local wildlife to thrive.



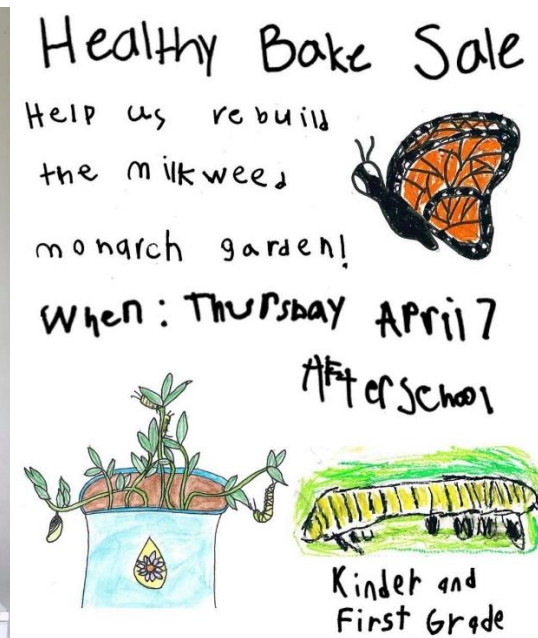
Preserving the Wild and Cherishing Class Pets

La Scuola is not just a school; it's a thriving ecosystem. A wild peacock colony calls its grounds home, and the school protects and nourishes them. You can mark the passing of the seasons by paying attention to their calls during mating season, watching for the new hatchlings, and watching them grow as the year progresses. Eventually, the peacocks mature, and the cycle renews.

Within the classrooms, students care for a menagerie of class pets, including bearded dragons, guinea pigs, ferrets, saltwater fish tanks, geckos, and rabbits. Some of the classes have been successful in growing their pet's food in the gardens. These furry and scaly companions foster empathy and responsibility among the young learners.

Robust Community

La Scuola thrives on the strength of its tightly knit community, where parents, neighbors, alumni, dedicated staff, current students, and valued community partners stand ready and eager to actively contribute to the realization of these transformative projects. This collaborative spirit extends beyond the school's gates, with the yearly Kidpreneur Market and Environmental Showcase where the local community is not only encouraged but enthusiastically welcomed to participate. As well as Socktober and other events where the school comes together to give back surplus to the community.



A Visionary Founder's Dream



At the heart of La Scuola is its visionary founder, Barbie Perez. A wife and mother, she has dedicated her life to enriching the lives of children. From an early age, she knew her calling was to create a sanctuary where children could feel safe and express themselves freely. Her journey began in July Of 2006 when the school opened its doors to students for the first time. Ms. Barbie's vision for the site is simple yet profound, "To make every space intentional."

However, like any visionary, Ms. Barbie faces her own challenges. She seeks the elusive rhythm of maintaining regenerative systems, such as food cultivation and harvesting, rainwater harvesting, and alternative energy harvesting. Yet, her commitment to her students and the environment fuels her drive to overcome these hurdles and continue shaping La Scuola into the thriving, green oasis she envisions, into what she describes as, "a school within a garden."

La Scuola Progressive Forest School is not just an educational institution; it's the power of nature, creativity, and community working together to shape young minds and hearts. It is a beacon of hope and inspiration for children and educators alike, demonstrating that when we strive to harmonize with the world around us, incredible possibilities unfold. With the active participation and support of her family, Ms. Barbie's dream continues to blossom, providing a nurturing and transformative environment for all.



Benefits of Permaculture Design



The implementation of a permaculture design at La Scuola would profoundly enhance the school's mission and its relationship with both the natural environment and the community it serves. Permaculture principles are inherently aligned with the school's Reggio Emilia-inspired philosophy and its commitment to fostering a deep connection to nature and conservation. By embracing permaculture, La Scuola would benefit in several key ways:

1. **Sustainability and Resilience:** Permaculture design would enable the school to create closed-loop systems, such as rainwater harvesting and greywater recycling, reducing its dependence on city resources and instilling values of sustainability in students.
2. **Educational Opportunities:** The permaculture landscape would support the living classroom, offering more opportunities for hands-on learning. Students would gain practical knowledge that aligns with the school's focus on experiential education. Students would continue to be

involved in design and implementation yet will learn more about the permaculture design framework.

3. **Community Engagement:** A permaculture design fosters a sense of shared responsibility and community involvement. Parents, neighbors, and alumni would have the chance to actively participate in project implementation and educational initiatives, strengthening bonds within the community.
4. **Ecological Restoration:** The school's commitment to preserving local wildlife and ecosystems would be enhanced through permaculture practices that prioritize habitat restoration, pollinator-friendly plants, and regenerative agriculture.
5. **Food Security and Nutrition:** By cultivating fruit tree groves and sustainable food production, La Scuola could contribute to food security, providing fresh produce for students and encouraging healthy eating. Beyond serving the immediate needs of the school community, the surplus harvest could be donated to local food banks and charitable organizations, extending La Scuola's commitment to sustainability to the broader community, and teaching students the value of people care and fair share. This thoughtful approach to food cultivation would not only nourish bodies but also nurture compassionate hearts among the students, emphasizing the importance of giving back and being responsible global citizens.
6. **Artistic Expression:** Permaculture gardens and outdoor spaces could be incorporated into the art curriculum, allowing students to draw inspiration from the natural world, encouraging creativity, and nurturing an appreciation for beauty and design.
7. **Economic Sustainability:** The school's yearly Kidpreneur Market and weekly student fundraisers could incorporate more products grown or crafted on-site, promoting entrepreneurship and financial literacy among students.

Design Site

From Macro to Micro



Image of Site within Map of the World



Image of Site within Map of the Country

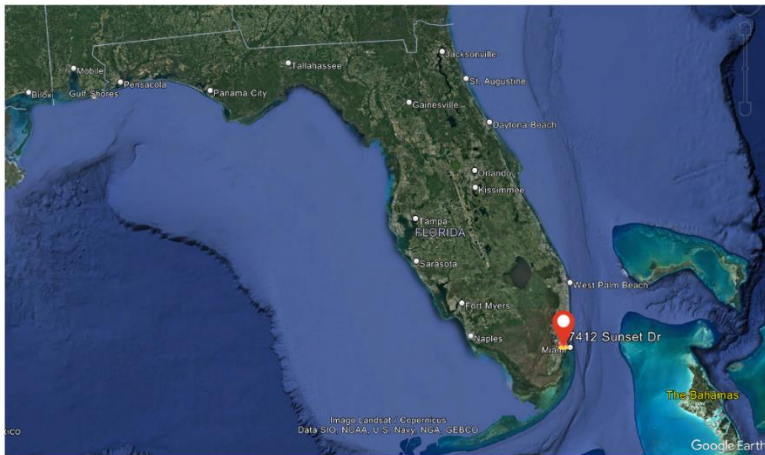
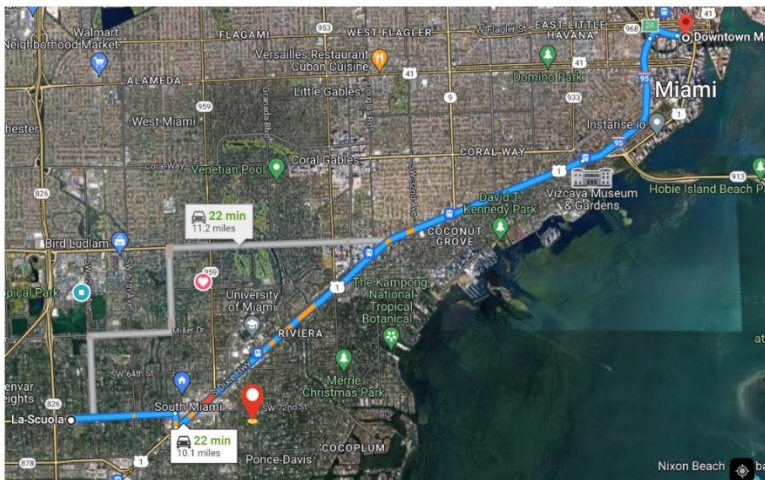
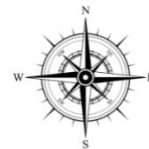


Image of Site within Map of the State

DESIGN SITE:
La Scuola Progressive Forest School
7412 Sunset Drive
Miami, FL 33143
LAT 25.701745
Lon -80.314362



Location of Site Marking Proximity to Nearest Major City Center: Downtown Miami 10.1 miles away



Aerial Image



Satellite Plan View Image of Site

Property Boundary

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Contour Map



In the provided contour map for Miami, the topography is relatively flat, with elevations not exceeding 4 meters (approximately 13 feet) above sea level. This flat terrain is typical of Miami's landscape, which is characterized by low-lying areas and a minimal variation in elevation. Such topography can influence the design of permaculture elements, particularly those related to water management.

On the Ground



View from northern front entrance



View from northern boundary of field

Site Analysis

Site Name: La Scuola

Location: Miami, Florida, United States

GPS Coordinates: LAT 25.701745
LON -80.314362

Size of the Site: 2 Acres

Topography: Flat

Soil Type: Sandy Loam

Climate: Subtropical



Native Plants: Butterfly pea, Firebush, Passionflower, Milkweed, Wild Coffee, Coontie, Resurrection Fern, Spanish Moss, Bahama Senna,

Non-Native Plants: Air Potato (Invasive), Elephant Foot Tree, Umbrella Tree (Invasive), Rosary Pea (Invasive), Shoe button Ardisia (Invasive), Paper Mulberry (Invasive), Wild Taro (Invasive), Moses in a Cradle (Invasive), Gold Coast Jasmine (Invasive), Serpent Fern (Invasive), Sword Fern (Invasive), Pineapple Plants, Banana Trees, Luffa,

Trees and Shrubs: Sabal Palm, Florida Oaks, Saw Palmetto, Beautyberry, Smooth Strong bark, South Florida Slash Pine, Silver Palms, Mango Trees, Olive Tree, Starfruit Tree, Mulberry Tree

Water Sources: Public water sourced from the Biscayne Aquifer

Sunlight Patterns:

Date	Sunrise	Sunrise Azimuth	Noon	Noon Altitude	Sunset	Sunset Azimuth
21-Dec-23	8:04	116 degrees	13:20	41 degrees	18:35	244 degrees
20-Mar-23	7:26	90 degrees	13:29	64 degrees	19:33	270 degrees
20-Jun-23	6:31	63 degrees	13:23	88 degrees	20:16	297 degrees
22-Sep-23	7:10	89 degrees	13:15	65 degrees	19:19	271 degrees

Sunny Areas: The Field

Wind Patterns: Prevailing Wind Direction-East, Average Wind Speed- 11mph

Shaded Areas: Butterfly garden, The Bird Forest, The Playground, Open air Hallways, East of Chicken Coop Area, The Piazza

Local Wildlife: Brown Anole, Bark Anole, Cuban Knight Anole, Ladybugs, Zebra Long Wings, Monarch Butterflies, Honeybees, Squirrels, Cats, Beetles, Mosquitoes, Fire Ants, Iguanas, Dragonflies, Racoons, Red fox, Bats

Bird Species: Blue jays, Cardinals, Red Belly Woodpeckers, Morning Dove, Hawks, Turkey vultures, Peacocks, Crows, Robins, House Sparrows,

Class Pets: Luna the doggy, Bearded Dragons, Guinea Pigs, Ferrets, Geckos, Saltwater Fish, Fighter Fish

Livestock: About 30 Chickens of varied breeds

Habitats: The Bird Forest, Lizard City, Creature City, The Butterfly Garden, The Piazza, The Playground

Infrastructure: Main School Building, Playground, Chicken Coops, Concrete Walkways, Asphalt Driveway, Chain-link and Wooden Fencing

Immediate Goals

1. To Create a Beekeeping Area:



Digitally Created Concept Art of Beekeeping Area

Constraints:

- 100 sq ft fenced in area being underutilized as a storage space.
- Large defunct equipment, such as an old generator, taking up space in storage area that can be better utilized.

Opportunities:

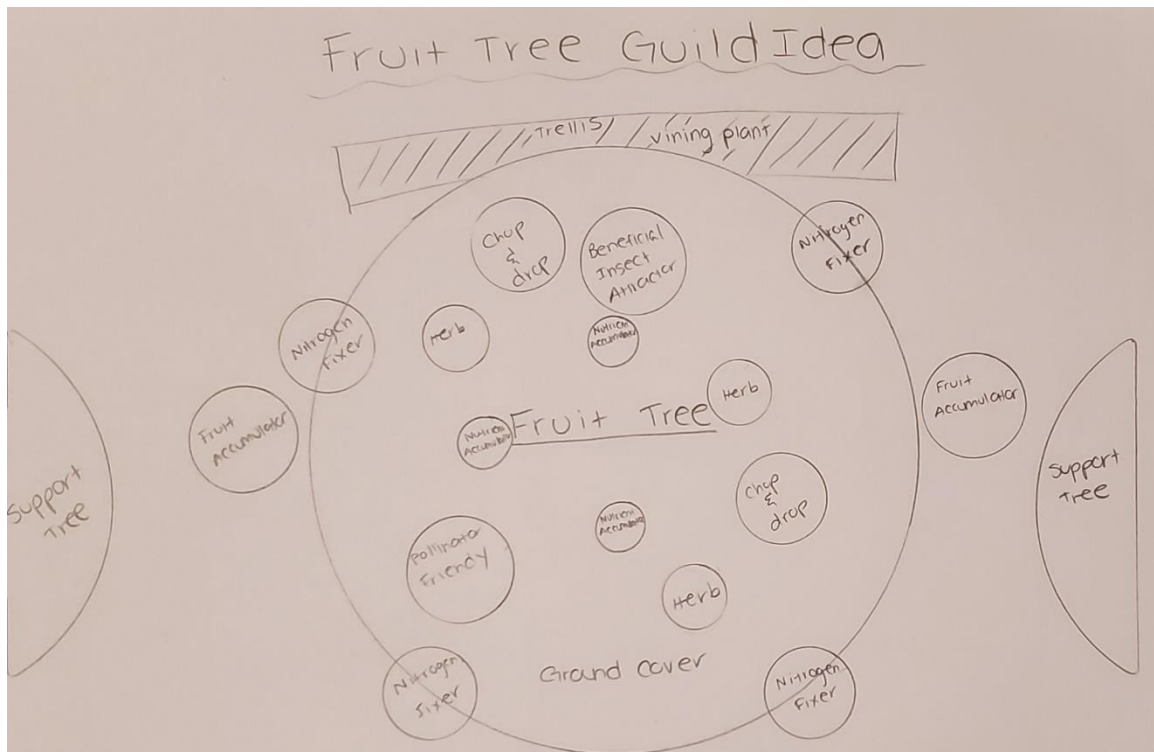
- The 100 sq ft fenced area currently used for storage can be transformed into a vibrant and educational beekeeping area.

- The presence of defunct equipment offers an opportunity to declutter and repurpose the space. This equipment can be relocated or recycled, freeing up space for the beekeeping area.

Benefits:

- **Education:** Foster a deeper understanding of the vital role bees play in ecosystems, agriculture, and food production among students and the community.
- **Empowerment:** Empower students with hands-on beekeeping experience, nurturing their sense of responsibility and environmental stewardship.
- **Pollinator Support:** Enhance local pollinator populations by providing a haven for bees and educating students about the importance of pollinators.
- **Local Honey Production:** Produce sustainable, locally sourced honey for educational purposes and potential fundraising opportunities.
- **Community Engagement:** Create a space where students, parents, and neighbors can actively participate in beekeeping activities and learn about sustainability.

2. To Create a Fruit Tree Grove Around the Sports Field:



Constraint:

- There is a limited budget for purchasing trees/saplings for the grove,

Opportunities:

- There are opportunities to optimize resource allocation and seek cost-effective options for acquiring fruit trees or saplings. There are also opportunities to fundraise.

Benefits:

- **Shade and Comfort:** Provide natural shade for the sports field to ensure a comfortable and safe environment for outdoor activities, particularly during Miami's hot summers.
- **Fresh Produce:** Cultivate a diverse selection of fruit trees to yield fresh, organic fruits, promoting healthy eating habits among students.
- **Educational Resource:** Utilize the fruit grove as an educational resource for students to learn about tree cultivation, fruit harvesting, and the importance of local food sources.
- **Biodiversity:** Attract local wildlife and beneficial insects, contributing to the overall biodiversity of the school grounds.
- **Aesthetic Enhancement:** Enhance the visual appeal of the sports field and create an inviting space for both students and the community.

3. To Create a Rain Harvesting System:

Constraints:

- Lack of prior knowledge of technical aspects of installing and maintaining a rain harvesting system.

Opportunities:

- Opportunity to gain knowledge and experience designing, installing, and maintaining a rainwater harvesting system.

Benefits:

- **Water Conservation:** The rain harvesting system conserves valuable freshwater resources by capturing and storing rainwater. This reduction in water consumption benefits the environment and lowers water bills.
- **Cost Savings:** Lower water bills and potential incentives for sustainable water practices lead to significant cost savings for the school.
- **Sustainable Landscaping:** The stored rainwater supports lush and sustainable landscaping, creating an aesthetically pleasing environment that enhances the school's appearance.
- **Drought Resilience:** The system provides a reliable water source for essential needs, such as irrigation, during periods of drought or water restrictions.
- **Fire Resilience:** The system contributes to the school's fire resilience efforts by maintaining adequate moisture levels in the landscape, reducing the risk of wildfires, and ensuring a safer environment.

- **Educational Resource:** The rain harvesting system empowers students to learn about water conservation, sustainable practices, and ecosystem health through hands-on experiences and real-world applications.
- **Community Engagement:** Involving students, parents, and community members in the design, implementation, and maintenance of the rain harvesting system fosters a sense of ownership, shared responsibility, and community cohesion.
- **Environmental Impact:** Reducing the school's dependence on city water lowers energy consumption for water treatment and distribution, leading to a decrease in the school's carbon footprint.
- **Resource Efficiency:** Rainwater harvesting promotes efficient and responsible water use, aligning with sustainability principles and conservation efforts.
- **Regenerative Practices:** Incorporating permaculture principles, such as water retention, swales, and berms, contributes to regenerative practices that enhance soil health and ecosystem vitality.

Estimated Budget

Beekeeping Area:

- Langstroth Beehives (4): \$800
- Beekeeping Protective Gear (suits, gloves, veils): \$300
- Smoker, Hive Tool, and Brush: \$100
- Feeder and Feeding Supplies: \$50
- Queen Excluder and Queen Rearing Kit: \$100
- Honey Extraction Equipment (extractor, uncapping tools): \$300
- Hive Stands (4) \$200
- Honey Storage Containers: \$50
- Additional Beehive Components (frames, foundations): \$150
- Bee Garden Plants and Pollinator-Friendly Flowers: \$300
- Beekeeping Books and Educational Resources: \$100
- Signage and Educational Materials: \$150
- Bee Feed (sugar syrup and pollen substitute): \$100/year
- Miscellaneous (repairs, replacement parts): \$100/year

Total Estimated Budget for Beekeeping Area: \$2800

Rain harvesting System:

- Rainwater Collection Tanks (500-gallon capacity): \$1,000 each (Quantity: 2)
- Gutters and Downspouts: \$500
- Filtration System (including screens and filters): \$500
- Piping and Connectors: \$300
- Water Pump: \$250
- Educational Signage and Materials: \$200
- Water Testing Kits: \$100
- Annual Tank Cleaning and Maintenance: \$300
- Replacement Parts (if needed): \$200

Total Estimated Budget for Rainwater Harvesting System: \$4350

Fruit Tree Guilds Around Field:

- 16 trees Fruit Trees: (At an average cost of \$50 per tree): \$800

- Companion Plants: Companion plants can include herbs, flowers, nitrogen-fixing plants, and ground covers. \$100 for companion plants for each guild: \$1,600
- Soil Amendments: Budget for soil amendments, organic matter, and compost to enrich the soil for planting: \$500.
- Estimated Budget for 16 Fruit Tree Guilds Installation: \$2900

Community Collaboration and Engagement

Central to La Scuola's pursuit of permaculture design is the dynamic web of its community, a network that reaches well beyond the school's confines. Parents, alumni, neighbors, committed community partners, and a growing affiliation with public schools collectively underpin this concerted endeavor, engaging actively in the school's sustainability initiatives.

La Scuola's parents actively contribute to the school's sustainability initiatives. While the beekeeping area and fruit tree guilds are still in planning, parents are already deeply involved in various ways. They chaperone field studies, collaborate on school projects, help care for class pets, and maintain open communication. In many instances, parents bring their own unique talents and knowledge, and share them with the school.

La Scuola's alumni maintain a lasting connection with the school's sustainability efforts even after graduation. They return as advocates, offering their expertise, time, and resources to support the planning and implementation of permaculture projects.

Neighborhood residents living in proximity to La Scuola give a hand from time to time and are supportive of La Scuola's projects.

La Scuola's extended network of community partners, encompassing local businesses and organizations, plays a pivotal role in enabling the school's sustainability vision. These partners offer valuable resources, expertise, and collaborative opportunities that drive the success of the planning and eventual implementation of projects.

La Scuola's partnership with Fairchild Tropical Botanic Garden underscores its commitment to botanical and environmental education. This partnership is poised to enrich the school's educational programs, offering students unique insights into the world of plant conservation, horticulture, and biodiversity.

This cohesive and dynamic collaboration between parents, alumni, neighbors, community partners, and the potential partnership with Fairchild Gardens exemplifies the strength of La Scuola's community engagement. It emphasizes that sustainability is not an isolated endeavor but a collective commitment. As the permaculture projects progress from planning to implementation, this unified effort reinforces the importance of sustainability, inspiring students and the broader community to become responsible stewards of their environment.



Timeline

PROJECT TIMELINE

Creating a project timeline is an essential aspect of managing any business project effectively. A well-structured timeline helps in planning, executing, and monitoring the project, ensuring that it stays on track and meets its goals within the defined timeframe. Here's a general outline of how to create a project timeline for a business project

PROJECT INITIATION

Months 1-2
Define project objectives, scope, and desired outcomes.
Form project teams and identify project leads for each initiative (beekeeping, fruit grove, water harvesting)

FRUIT TREE GUILDS INSTALL

Months 17-24
Plant a variety of fruit trees around the sports field, following permaculture design principles.
Engage parents, students, and volunteers for tree planting.
Monitor tree growth and health regularly.

PLANNING & DESIGN

Months 3-6
Create detailed designs for the beekeeping area, fruit tree grove, and rainwater harvesting system.
Develop comprehensive project plans, including budget estimates, materials sourcing, and required permits.

RAIN HARVESTING SYSTEM

Months 25-30
Begin the construction of the rain harvesting system.
Involve community members, including parents, alumni, and neighbors in the installation.
Develop educational materials to raise awareness about water conservation.

COMMUNITY ENGAGE

Months 7-8
Engage teachers, parents, alumni, neighbors, and community partners to gather input and feedback.
Host community meetings to discuss project plans and garner support.

MAINTENANCE & MONITORING

Ongoing
Establish a maintenance schedule for all projects, ensuring their long-term sustainability.
Monitor the beekeeping area, fruit tree grove, and rainwater harvesting system for performance and make necessary adjustments.

PRELIMINARY SITE PREPARATION

Months 9-12
Clear and prepare the designated areas for the beekeeping project and fruit tree grove.
Begin soil improvement and amendment for the fruit tree guilds.

LEARNING

Conduct workshops and educational programs for students, parents, and community members.
Provide opportunities for hands-on learning and involvement in the permaculture projects.

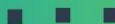
BEEKEEPING AREA ESTABLISHMENT

Months 13-16
Install beehives and necessary equipment.
Implement pollinator-friendly planting in the area.
Initiate educational programs for students and the community.

CELEBRATION

Host an event to celebrate the completion of the permaculture projects.
Showcase the achievements to the La Scuola community and the public.

This timeline showcases an organized approach to implementing the beekeeping project, fruit tree grove, and rain harvesting system at La Scuola. It emphasizes the commitment to sustainability and community involvement throughout the process. This document is fluid and dynamic, and may require adjustments during the course of the project.



About the Designer



Hello, I'm Dayana, a passionate advocate for regenerative practices and sustainability. My journey into permaculture design is rooted in a deep desire to foster harmony between people and the Earth. As a mother of four, my commitment to creating a better world for future generations is a driving force behind my work.

My formal training includes completing the Professional Permaculture Design Course with Oregon State University, which I successfully finished in June 2023. During this course, I had the privilege of being part of a dedicated student team led by the experienced Monica Ibacache, under the guidance of OSU course professor Andrew Millison.

In addition to my permaculture certification, I hold a bachelor's degree in microbiology and cell science, which I earned from The University of Florida in August 2022. This background equips me with a scientific understanding of the natural world, which I blend with my budding permaculture knowledge.

The proposal for La Scuola Progressive Forest School marks my second permaculture design project, the first being a part of my Professional Permaculture Design Course. As a mother whose children have each attended La Scuola, I am eager to give back to the community that has empowered and given my children a second home. My dedication to fostering regenerative practices and my belief in the transformative power of permaculture fuel my enthusiasm for this project.

My overarching goal is to empower individuals and communities to embrace regenerative living, and I see La Scuola as an incredible opportunity to make a real and lasting impact. I am excited to collaborate with the La Scuola family.

Conclusion

In essence, a permaculture design seamlessly aligns with La Scuola's values and objectives, serving as a guiding light on its journey toward becoming a living example of sustainable and regenerative practices. The truth is, our children are indeed the future, and in today's world, one that often seems suspended between chaos and rebirth, it is imperative that our children are equipped with the framework and ethics to lead the world back into balance.

La Scuola isn't merely an educational institution; it's an oasis in a desert of distraction, a return to what truly matters, a reconnection with the world around us. With its permaculture projects and the unwavering commitment of its community, La Scuola is primed to inspire a generation of students who will become stewards not only of their own well-being but also of the environment they inhabit.