

The EcoChic Biodome Project

By Netra Suraj-Meena

Introduction

Imagine walking into a lush, green sanctuary where the air is fresh, the plants thrive, and the atmosphere soothes the mind. In today's fast-paced school environment, students often struggle with stress, and a disconnect from nature. The EcoChic Biodome is our school's innovative response to these challenges; led by Ms. Taha, it is a self-sustaining greenhouse that houses flowers, vegetables, fruits and more, and is a calming space for students. This project aims to embody the principles of sustainability, wellness, and education, creating a multi-functional environment that benefits the entire school community.

Our Journey

The EcoChic Biodome started as a simple vision, but through research, collaboration, and dedication, it has been transformed into a tangible project. To gather inspiration and knowledge, our team, consisting of (at the time) Netra, Abigail, Mae, Drew, Kindness, Kai, and Nuisaima visited the botanical gardens. At the botanical gardens, we explored different plant ecosystems and sustainable growing techniques such as precision agriculture, aquaponics, and water management. Moreover, we later traveled to Old Rucker Farm, where we learned about a few urban farming techniques such as rooftop farming, container farming, and bee keeping.

Meeting every Flex Friday, our team slowly developed a structured plan. What was once just an empty space evolved into a vibrant hub of growth and creativity. Our biodome is located just outside the engineering wing! We have painted the structure, planted a few crops, and are

beginning to formulate a plan so that the biodome thrives year-round. This journey has been a testament to teamwork, perseverance and innovation, and I, along with everyone else, have enjoyed every moment of it.

To enhance the design, we intend to incorporate plexiglass into the roof to allow ample sunlight while maintaining structural integrity. Additionally, we will include hanging plants and a diverse array of plant species inside the biodome to create a flourishing, green environment. We are working close with Mr. Robinson's design team in terms of what works best for the roof. They are responsible for tending to the roof, ensuring that the plants receive the necessary sunlight and other essential elements they need to grow, along with it being structurally sound.

Elements of the EcoChic Biodome

We envision the biodome to be a self-sustaining greenhouse with essential elements that support plant growth and enhance student engagement. As of now, we have formulated a few ideas of how we want the biodome to look. We would like to incorporate various fruits, vegetables, and herbs, to create a vibrant ecosystem. Moreover, we intend to implement irrigation solutions such as drip watering and compost-based fertilization to ensure plants receive optimal care.

Furthermore, as mentioned before, we want to include plexiglass roofing and strategic plant placement to maximize sunlight exposure. Likewise, exploring options such as rainwater collection and eco-friendly sources to minimize the environmental impact has been another thing we're keeping in mind. Lastly, we intend to provide an inviting environment where students can observe plant biology, sustainability, and the importance of green spaces, large or small.

Skills Learnt Through the EcoChic Biodome Project

The EcoChic Biodome is not just about sustainability; it is also about growth, learning, and skill development. Through hands-on experience, team members have developed valuable skills! We have adopted skills of collaboration and teamwork by working together to bring ideas to life and solving challenges efficiently. Additionally, we have also gotten quite good at problem solving by identifying and addressing issues related to plant health, structural design, and resource management. The EcoChic Biodome project has fostered creativity and innovation in each of us, especially when finding unique ways to enhance the biodome's sustainability and functionality. Moreover, it has taught us the importance of leadership and responsibility by taking ownership of tasks and making decisions that impact the project's success. Lastly, we are able to gain technical and agricultural knowledge by gaining firsthand experience in plant care, irrigation, and environmental science.

Community Impact and Future Growth

The EcoChic Biodome is more than just a student project—it has the potential to inspire and empower the broader community. By seeing this initiative come to life, others may feel encouraged to develop their own sustainability projects or start new design teams focused on environmental innovation.

We believe this project provides many benefits to the community. For instance, it serves as inspiration for future projects by functioning as a model for other students and educators interested in sustainability and design thinking. Other individuals may also propose additional features, such as how to effectively incorporate fertilizer or composting solutions, or maybe even partnerships with local farms. From how effective this project has been, I believe this project serves as a platform for community collaboration as it encourages local experts, businesses, and volunteers to contribute ideas, resources, and mentorship.

Concluding Statements

To ensure the EcoChic Biodome is a success, we need the support of students, teachers, and the community. You can contribute by volunteering to help with planting or maintenance, potentially donating materials or funds to expand the project and spread awareness about the initiative and the benefits it provides.

By investing in this project, we are investing in a healthier, greener and more mindful future for our school. The EcoChic biodome is not just a dream, it is a vision of sustainability and wellness that will enrich the lives of generations to come! Let's make it a reality together!

Pictures

What the Biodome initially looked like:



Progression:



