

Team Name: The Countertop Cultivators

Teacher Name: Ms. Airado

# Green Heart Action Plan

## Problem Definition/ Problem Statement

Our school is located in Homestead, a major agricultural hub that feeds the country. However, many families in our school community live in a “food swamp”, an area where processed, low-nutrient food is cheap and readily available, while fresh, nutrient-dense produce is expensive or hard to access. This disconnect creates a nutritional gap for students and separates us from our community’s agricultural roots.

## Root Cause of the Problem

- Economic Barriers: Fresh produce is more expensive than processed, shelf-stable snacks.
- Convenience & Access: Corner stores and fast food are often closer to students' homes than full-service grocery stores, making unhealthy food the easiest option.
- Space & Time: Many families live in apartments or homes without garden space or lack the time/resources to maintain a traditional in-ground vegetable garden.

## List at Least Three Credible Resources that Support Your Problem Statement

USDA Food Access Research Atlas <https://www.ers.usda.gov/data-products/food-access-research-atlas>

Feeding South Florida Hunger Profiles  
<https://map.feedingamerica.org/county/2023/overall/florida/county/miami-dade>

Florida Health Charts <https://www.flhealthcharts.gov/charts/default.aspx>

## Proposed Solution

We will use our school’s existing greenhouse and resources to engineer and distribute low-cost, self-watering "Micro-Harvest Kits." These kits will use upcycled containers and high-yield, regrowing crops (like loose-leaf lettuce, spinach, or herbs) that allow families to grow and harvest fresh nutrients directly on their kitchen counters.

## How We Will Measure Our Success

- Distribution: Number of kits successfully assembled and distributed to families.
- Survival Rate: Percentage of plants that are still alive and producing food after 4 weeks (measured by a follow-up check-in).
- Consumption: Pre- and post-project surveys asking students: "How many times did you eat something fresh/green this week?"



## Who are Decision Makers We Need to Reach

- School Principal/Administration: To approve the distribution plan and potential funding.
- Agriscience Department Head: To secure dedicated space in the greenhouse for propagating the "starter" plants.
- Local Businesses (Home Depot/Lowes or Local Nurseries): To potentially donate soil, seeds, or containers.

## Our 3-5 Step Plan for Change

1. Design & Prototype: Science students will test 3 different "self-watering" designs (using recycled bottles/tubs) to see which keeps plants alive longest with the least effort.
2. Propagation: Agriscience students will plant seeds for high-yield crops (lettuce/herbs) in the greenhouse 4 weeks before launch.
3. Assembly & Education: Students will assemble the kits and create a digital "Care Card" (QR code linking to a student-made video) on how to harvest without killing the plant.
4. Distribution & Data: Hand out kits to the pilot group (one specific grade level or club) and collect "Pre-Survey" data on their current eating habits.
5. Harvest Check-In: 30 days later, send a "Harvest Survey" to see if families used the food and if the design worked.

## Impact & Equity

- Who benefits? This helps families living in apartments or without yards, who are often left out of community garden projects.
- Equity: By providing the soil, seeds, and container for free (or very low cost), we remove the financial barrier to gardening. The "self-watering" design helps families who work long hours and might forget to water daily.

## What Help We Need to Be Successful

- Materials: Potting soil, seeds (lettuce, spinach, basil), and containers (either purchased buckets or collected 2-liter bottles).
- Expertise: Guidance from the agriscience teacher on the best soil mixture for small containers.
- Promotion: Help from teachers to encourage students to take the kits home and use them.

