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Green Heart Action Plan (also in Google Classroom)

Problem Definition/ Problem Statement

In Kathryn Johnson Park, the soil is contaminated with lead, which leads to poor soil quality, poor crop quality, decreased plant growth, and human health issues.

Root Cause of the Problem

Heavy metals that were disposed of improperly led to the contamination of the soil with lead. Since the metals were disposed of improperly, smelting waste was left behind, which infiltrated the soil.

List at Least Three Credible Resources that Support Your Problem Statement

“EPA Collaborates with City and State to Replace Lead-Contaminated Soil at Atlanta’s Lindsay Street Park | US EPA.” *US EPA*, 11 Mar. 2025,
www.epa.gov/newsreleases/epa-collaborates-city-and-state-replace-lead-contaminated-soil-atlantas-lindsay-street Accessed 4 Mar. 2026.

Raby, Dan. “Cleanup Operation Underway at Lead-Contaminated NW Atlanta Park.” *FOX 5 Atlanta*, 12 Mar. 2025,
www.fox5atlanta.com/news/cleanup-underway-lead-lindsay-street-park-atlanta Accessed 4 Mar. 2026.



Pourrut, Bertrand, et al. "Lead Uptake, Toxicity, and Detoxification in Plants."

Reviews of Environmental Contamination and Toxicology, vol. 213, 2011, pp. 113–36,

https://doi.org/10.1007/978-1-4419-9860-6_4 Accessed 4 Mar. 2026.

Proposed Solution

We plan to introduce a specialized solution to replenish nutrients the soil lacks. The solution will help counteract the lead poisoning by adding amendments like phosphorus and organic matter to immobilize the lead.

How We Will Measure Our Success

We will measure our success by comparing the soil before and after our specialized solution. We will measure health by evaluating pH, biological activity, and mineral content. If the pH level, biological activity, and mineral content have improved to a stable and healthy level, we will be able to conclude that our solution worked. To determine this, we will take a sample of our soil before the solution and a sample of our soil after the solution to the UGA Extension Lab for evaluation.

Who are Decision Makers We Need to Reach

We need to reach out to the City of Atlanta Department of Parks and Recreation for approval to implement our solution in Kathryn Johnson Park.

Our 3-5 Step Plan for Change

1. Take a sample of the soil from Kathryn Johnson Park
2. Take the soil sample to the UGA Extension Lab
3. Create a solution based on what nutrients the soil is lacking and compounds to break down the lead.
4. Measure the success of our fertilizer (see How We Will Measure Our Success section).

Impact & Equity

Our solution will positively impact the Kathryn Johnson Park. Our solution will promote soil health, which will lead to improved crops, a reduction of human health issues, and increased plant growth. This will improve the quality of Kathryn Johnson Park and prevent lead poisoning.

What Help We Need to Be Successful

We will need assistance from the UGA Extension Lab to evaluate our soil's pH, biological life, and minerals. Additionally, we will need approval from the City of Atlanta Department of Parks and Recreation to implement our solution in Kathryn Johnson Park.

RUBRIC for Community Day Assignments

Criterion Title	Criterion Description	Points Possible	Exceeds (100%)	Meets (85%)	Developing (70%)
Phase 1: Research Prep	Quality of the Problem Tree Tune-Up and the 30-second pitch.	20	Pitch is compelling and identifies specific evidence gaps the team needs to fill.	Problem tree is local and specific; pitch identifies topic, problem, and root cause.	Problem tree is too broad; pitch is missing key details or lacks focus.
Phase 2: Expert Engagement	Documenting insights from rotations and maintaining professionalism.	30	High professionalism; asks insightful "Why" or "Feasibility" questions that challenge	Active participation; records 3 expert insights and new local keywords/leads	Few notes taken; minimal interaction with experts; passive listening.

			assumptions.		
Phase 3: Group Problem Statement	Refinement of the statement into the "North Star" format.	20	Statement is highly narrowed and answerable with evidence rather than opinions.	Follows format: "In [PLACE], [WHO/WHAT] is affected by [ISSUE], which leads to [Impact]".	Statement is broad or missing one or more elements (Place, Who, Issue, Impact).
Phase 4: Action Plan & Variable	Design of the solution, its community impact, and success metrics.	30	Clear Impact & Equity section; variable is highly quantifiable (e.g., amount, cost, or frequency).	Includes a 3-5 step plan, names decision makers, and identifies a specific variable to measure.	Solution is vague; 3-5 steps are missing; no measurable variable identified