

Data Collection for Green and Healthy Schools

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ABSTRACT

We developed a database with a user-friendly web interface for educators to input data on their school's environmental impact and initiatives. This database centralizes information on energy consumption, waste management, water usage, carbon emissions, and various environmental projects like recycling, composting, sustainability efforts, and outdoor learning activities.

HYPOTHESIS

- Implementation of centralized dashboard & user-friendly submission form for Green and Healthy Schools (GHS) initiative
- Enhances data management efficiency & accessibility
- Increases student participation & enriches learning experiences

TECHNOLOGIES

In this project we used the following tools and software: Python, HTML, CSS, JS, Google Colab, Replit, Angular, Firebase

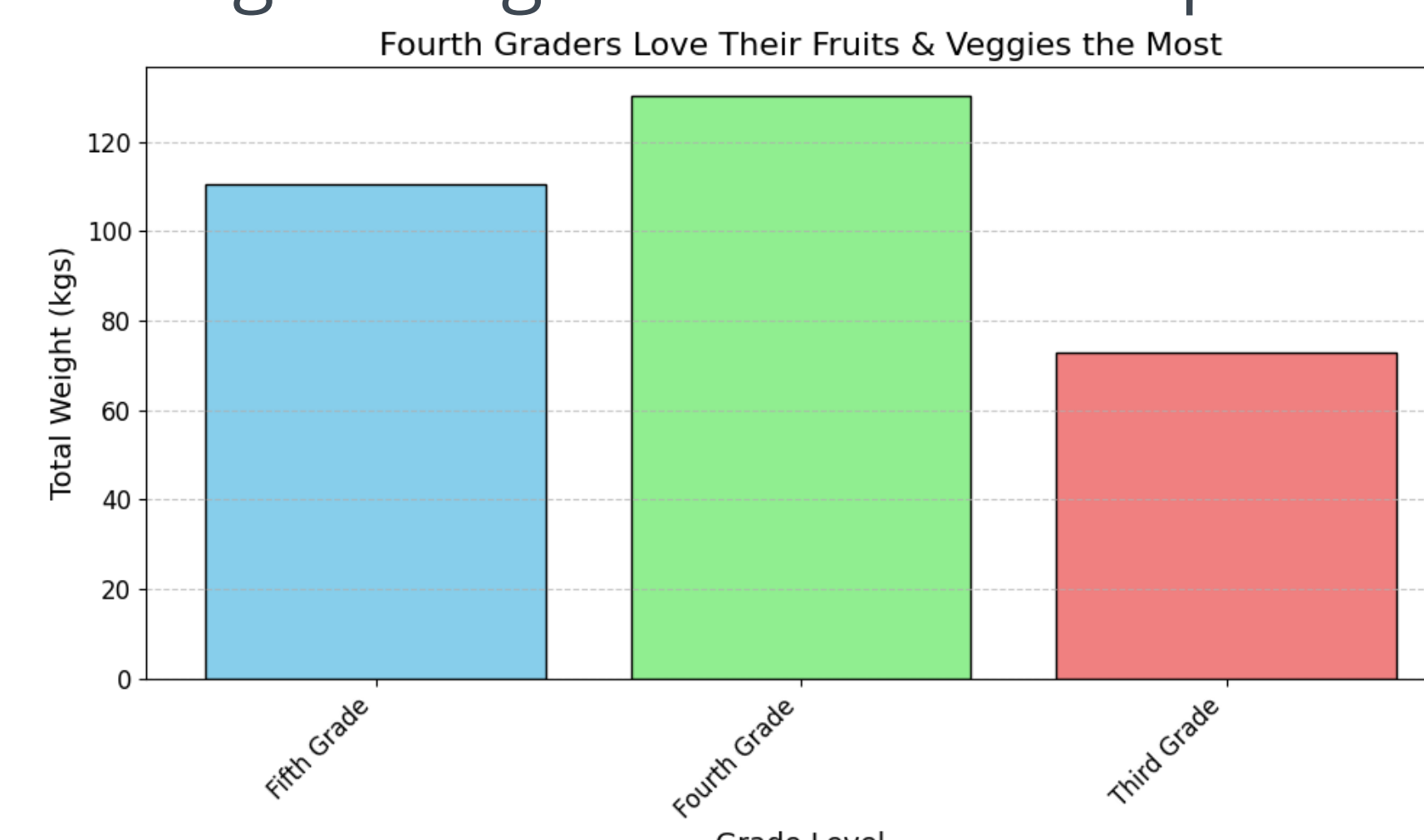
DATA PROCESSING

We initiated the data processing with the data provided by our clients.

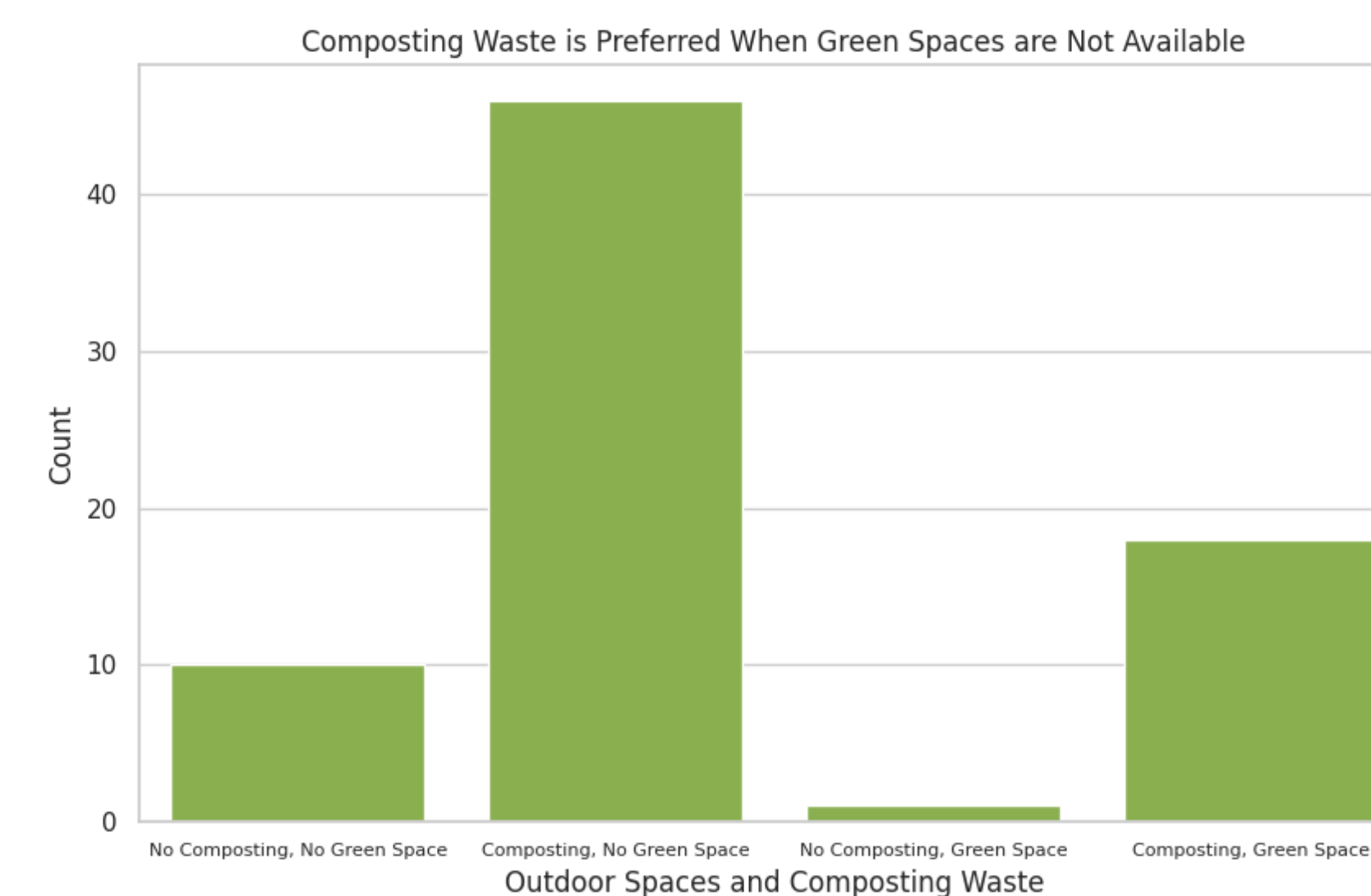
- Data cleaning
 - Remove null values
 - Convert text entry to number for consistency
 - other necessary operations
- Jupiter Colab notebook: <https://colab.research.google.com/drive/1BlvrXFGp6rFO2Ys5EcRHZP3MPoTO6eol?usp=sharing>

RESULTS

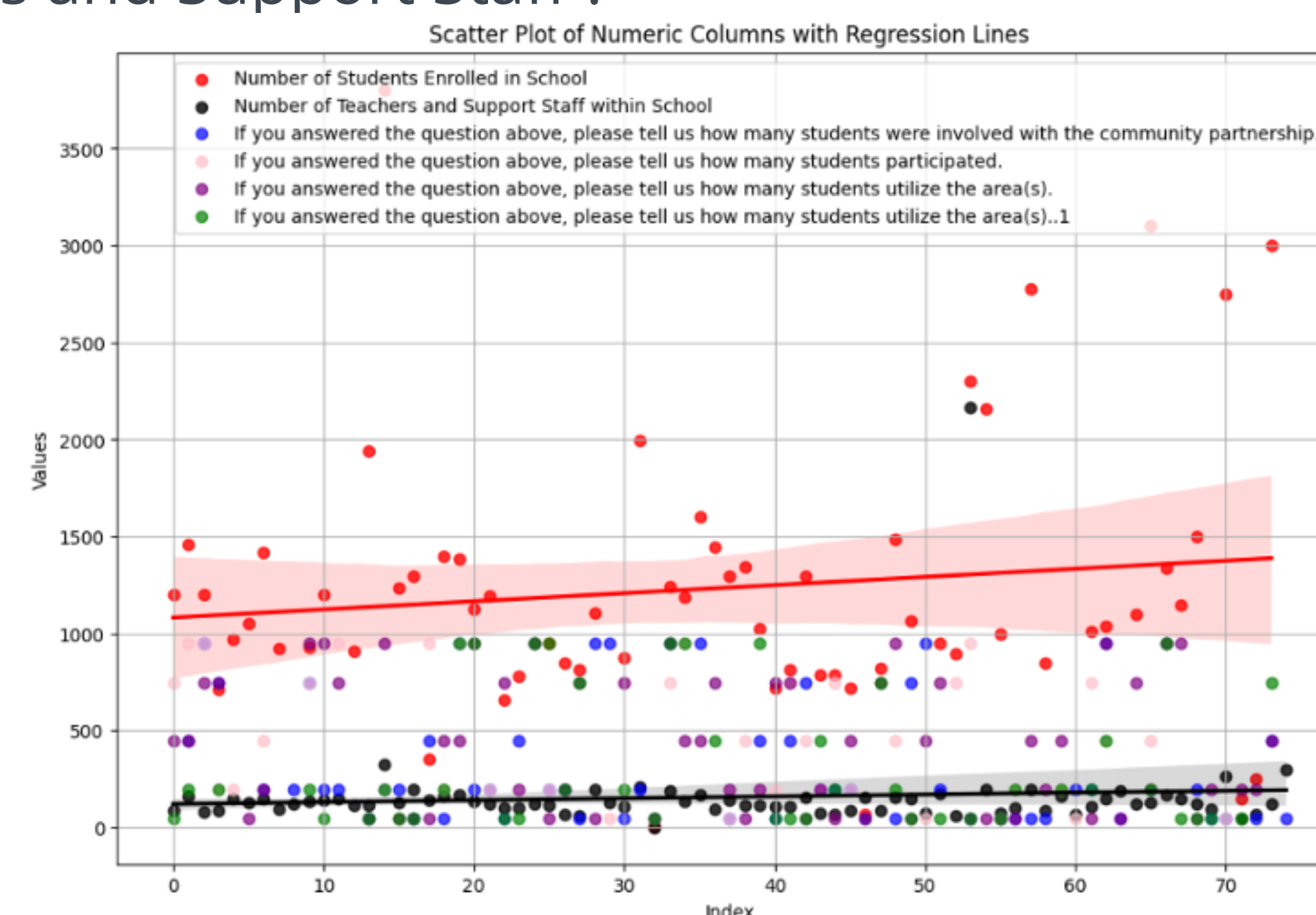
The graph illustrates the combined weight of fruits and vegetables consumed by different grade levels, with fourth graders consuming the highest amount compared to other grades.



A contingency table shows a clear connection between outdoor spaces and composting practices in schools, with most lacking composting initiatives despite having green areas, except for one school, indicating a potential target for focused intervention and further research.



The regression lines disprove the hypothesis that student enrollment significantly impacts environmental education activities, with the only positive correlation found between 'Number of Students Enrolled in School' and 'Number of Teachers and Support Staff'.



RESULTS

We developed a nice website in collaboration with a software development team.

- dashboard for teachers to visualize their school's statistics
- form for teachers to query and retrieve information

GHS

TEACHERS PARTNERS PROJECTS ABOUT

GHS Environmental Profile Questions

Welcome to our profile form for Green and Healthy Schools Program. Please provide the required information below to share your school's progress.
* Indicates required field.

Your Form has been submitted successfully

* School Name:

* Name of GHS Teacher Representative:

* Email of GHS Teacher Representative:

* Number of Students Enrolled in Class:

* Select your school level:

Section 6: Student Environmental Projects

Section 7: Community Partners

Section 8: Food Waste

Section 9: Composting

CONCLUSION

- Work in a team and learned new technologies
- Cleaned database provided by the client, Green and Healthy Schools (GHS)
- Developed a User-friendly data collection form connected to firebase
- Developed a dashboard for visualizing the data statistics

WORKS CITED

- <https://gwinnettcg.org/programs/green-and-healthy-schools/>
- GitHub repo: <https://github.com/GGC-DSA/GHS-Data-Collection>
- Replit: <https://replit.com/@NhtV1/Demo-GHS-DATA>