

# Composting for Schools

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## ABSTRACT

One third of Connecticut landfills contain material that is biodegradable. By composting this material, we will not only reduce the amount of waste in these landfills, but also make a useful product that can reduce fertilizer use in local gardens.

Nevertheless, many are unaware of the issue related to waste and the benefits of composting. In Hamden High School, there are only about two clubs or classes, (Green House Club and Green Connections Class) devoted to addressing various environmental issues. Day after day, I would observe these groups try and get people to join these clubs and classes to educate students about these different environmental problems, yet no one seemed to care. I have also noticed few students eating the fruits and vegetables in the cafeteria, as the fruit and vegetables do not look as fresh as they could be. This lack of interest in the environmental issues and understanding of benefits of the environmental solution (e.g. fresh produced from compost soil) led to the unsuccessful implementation of a composting program previously at Hamden High School. I realized that if we set up composting bins again, proper education of the students of Hamden High on the importance and benefits of the composting programs needed for this program to be successful.

We plan to start a composting program at our school to help educate the students about composting, help our school reduce waste, and help the environmental clubs with their green house by giving them fresh soil to grow the school's fruits and vegetables. To ensure the success of this program I (1) helped prepare a grant proposal, (2) developed the composting set up, (3) educated my peers.

## INTRODUCTION

In the small state of, Connecticut, there are 21 landfills and about 30% of waste we send to these landfills is some kind of organic material. Whether it may be paper to banana peels. Through composting, this biodegradable material could be used to make better soil, which then can be used in home gardens or for other purposes rather than merely occupying landfills. Composting can also reduce the use of fertilizers. Fertilizers have harmful chemicals in them that can harm our animal life. The chemicals can get into the waters wildlife drink from and live in, which could potentially kill them. Also these chemicals could harm your body to if it gets into our drinking waters. Reducing fertilizer use is good for both the health of us and the health of the environment. We could protect our wildlife better and keep each other safe from incoming harm.

### OBJECTIVES:

1. Educate my fellow students about the problem with food waste and the importance/benefits of composting to ensure success of future composting program.
2. Help submit a grant proposal to secure funding for composting program.
3. Help develop composting system at Hamden High School.

## PROPOSAL

To be able to carry out the composting program, we first need funding. I developed the budget to present to the Board of Education to show the cost of supplies needed to make this project. To prepare this budget (see budget to the right) I went to my local supplies store, Home Depot, and of items things we will need to create this composting bin(s). This budget was also included in a grant proposed to the Recycle CT Foundation.

Hamden High School: Composting Bin Budget Bill Harrison and Kylie Ray		
Supplies		
Composting Thermometer		\$2.98
Industrial scale		\$129.00
6 compost collection containers		\$59.82
6 pairs work gloves		\$59.88
6 pcs 2" x 4" x 8' ACQ treated lumber		\$46.02
21 pcs 5.25" x 6" x 16' plastic lumber		\$840.00
3 pcs 4" x 4" x 16' ACQ treated lumber		\$52.71
3 lbs 12D galvanized nails		\$14.84
48 ft 1/2" mesh 4' wide hardware cloth		\$12.97
5 - 3" hinges		\$2.98
5 - 5.5" handles		\$2.98
10 - safety gate hooks		\$2.97
Total cost		\$1,227.15

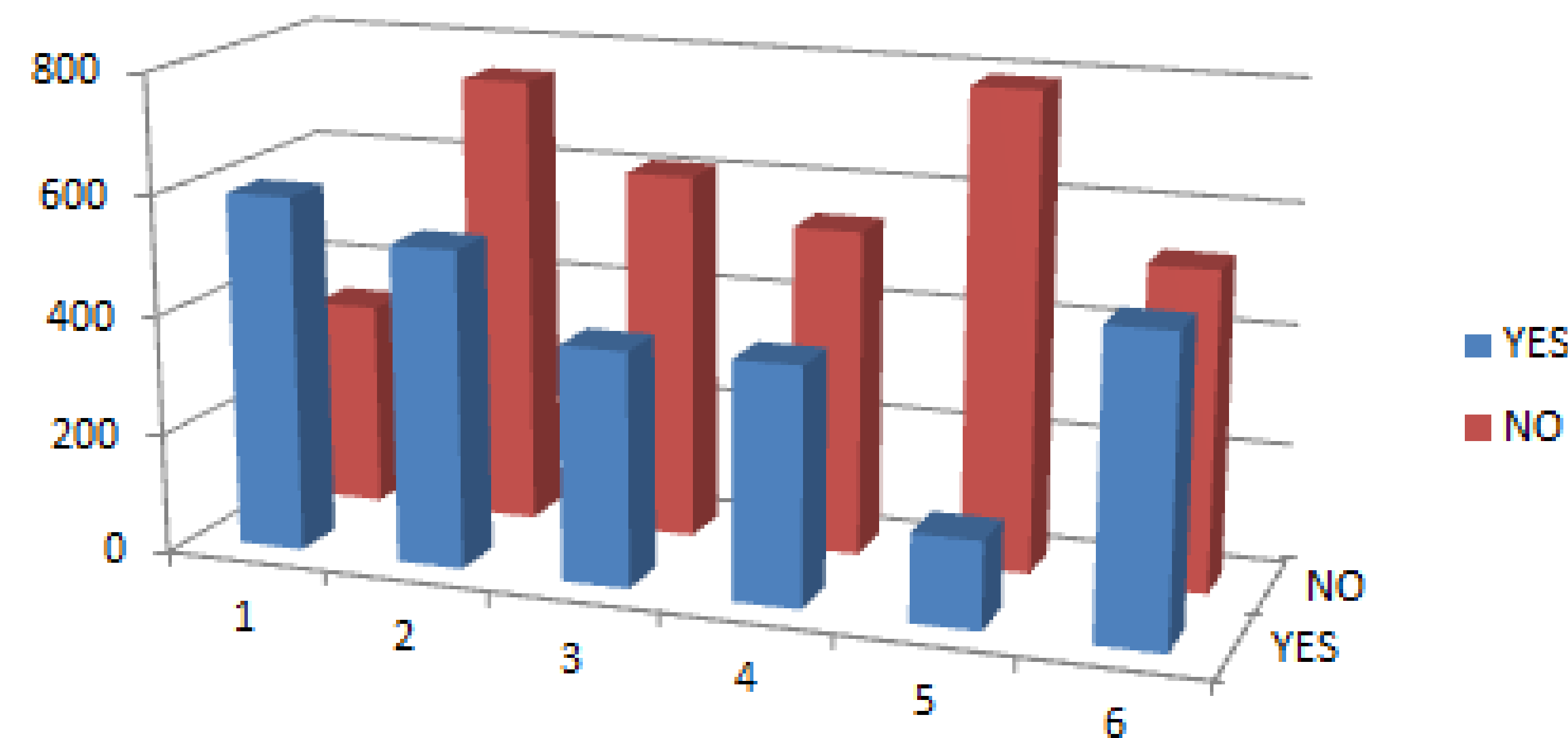
## EDUCATIONAL SURVEY

To evaluate the viewpoints of students on composting in Hamden High School, I created and distributed an educational survey. I asked 937 students in my school who take a science class (grades 9-12) to take the survey. They were asked 6 questions...

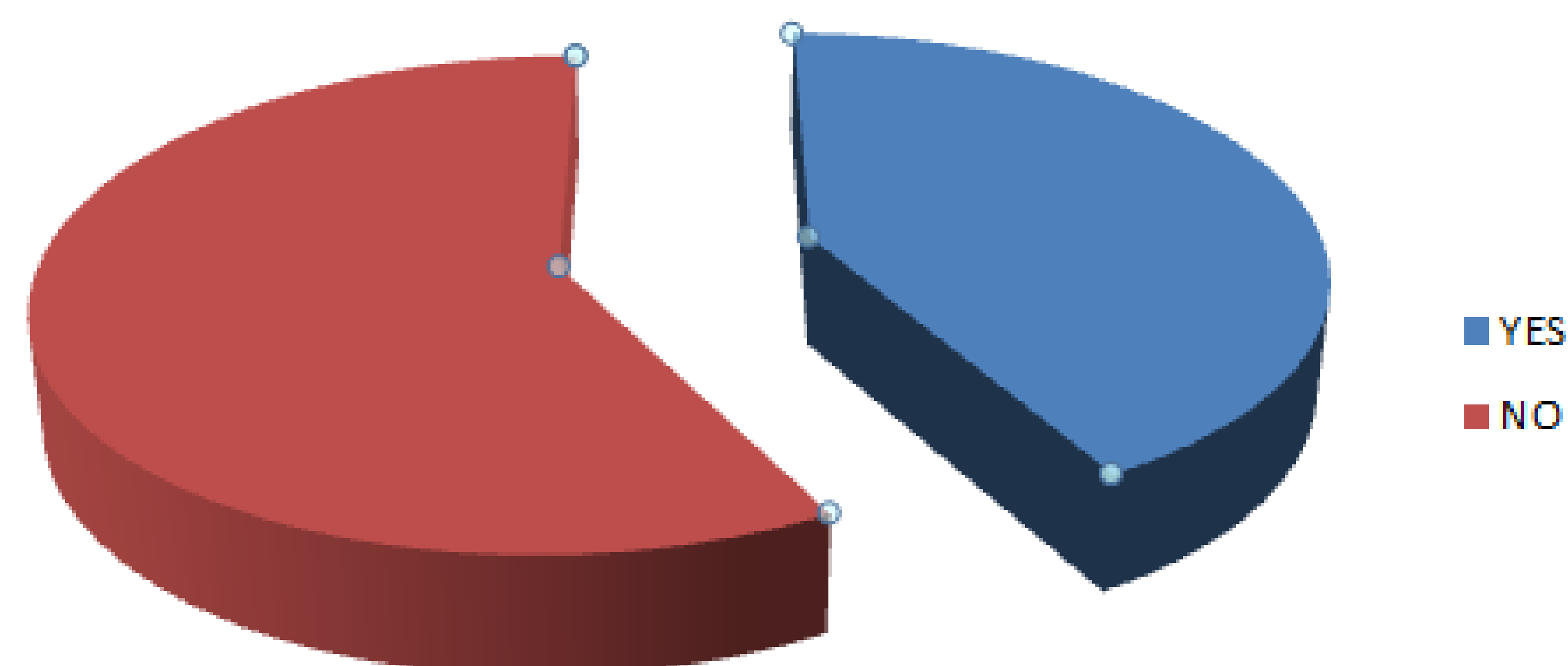
1. Do you know about composting?
2. Do you think composting is important? Why or why not?
3. Do you think composting would be a good way to help the school save money and create healthier lunch foods?
4. Would you ever consider composting at home? Why or why not?
5. Do you already compost at home?
6. Would you be willing to help the school with a composting project if given a chance?

The results to the survey questions are shown below. Most people did know about composting but some did not understand the importance or care about school or home composting. What surprised me was how many people were interested in participating in the composting program, if given the opportunity. This may be an important way to further education on composting in the future.

I followed up this survey with a composting demonstration to help educate my peers on its importance and benefits (see photos to the right).



## TOTAL PERCENT



## PLAN FOR SCHOOL COMPOSTING SYSTEM

My community partner, Mr. William Harrison, and I plan on implementing the new composting bins in the school courtyard. The new composting system will consist of four 4-cubic yard containers. For construction, we are working with the green house club and Green Connections classes as well as other students, if they are interested. We also will be setting up school assemblies for to educate students on the importance of composting in their daily lives as well as make them aware of the new composting system at school.



(Left) Presenting the composting demonstration to students of Hamden High School. (Right) These are red wiggler worms. They are the type of worms we will use in our composting bins. They eat fruits, vegetables, breads and popcorn (whole grain is the best for them), and paper (e.g. newspaper and copy paper). You should not feed them any spicy foods, foods with artificial flavors or chemicals mixed in, bagged food citrus, any dairy products, or processed foods.

## FUTURE DIRECTIONS

We plan on making this project last for years to come and not just last the 2 years I have left of at Hamden High School. My partner plans to continue educating future students who come to Hamden High School about composting and how to help the keep our environment safe and clean. We can start building the composting bins this spring and start educating students now. It is just a matter of when the school can let us set up assemblies for the students. This composting bin project may just be an idea right now, but we are going to make this idea a reality.

## ACKNOWLEDGEMENTS

I would like to thank my partner, Mr. Harrison, who helped make this project a reality. Also, Dr. Laura Cisneros for helping me and keeping me on track with this project when I was lost on what to do. Also, the people at NRCA who selected me go come into this program. If they did not, I would not be doing this project or have the opportunity to present this project. I would last like to thank my little sister, who hoped me out with the demonstration composting bin while I gone away to UCONN for a week.

## REFERENCES

<http://www.scientificamerican.com/article/how-fertilizers-harm-earth/>  
<http://environment.gov.ab.ca/edu/activities/compost/WhyCompost.htm>