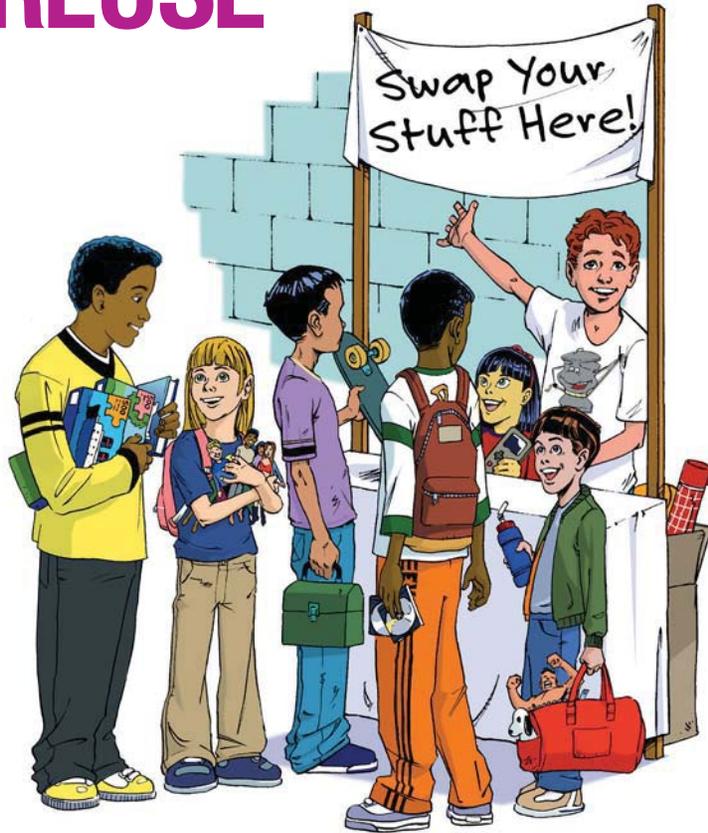


REDUCE & REUSE



Citywide Winner
Intermediate Division

WHEELS

Washington Heights
Expeditionary Learning School

2015 GOLDEN APPLE AWARDS

This certificate is awarded with the sincere appreciation and esteem of a grateful Department and City in recognition of your school's efforts to help make New York City shine.



City of New York
Department of Sanitation
Bureau of Recycling and Sustainability
nyc.gov/recycle

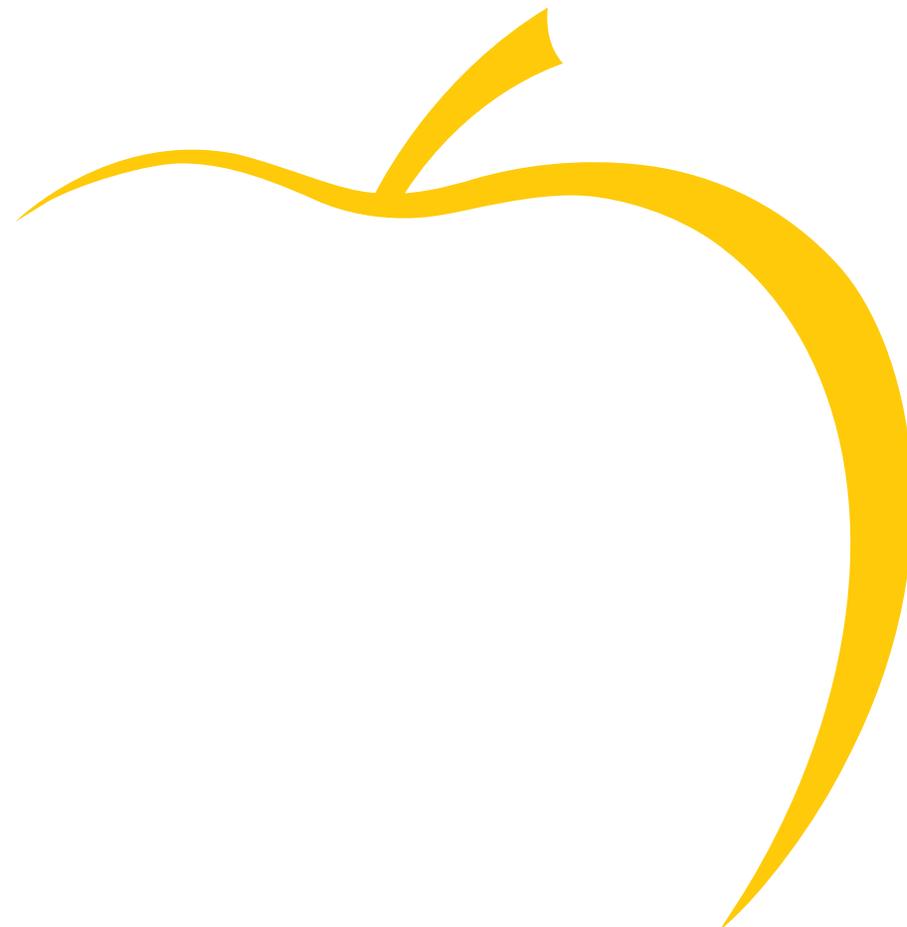
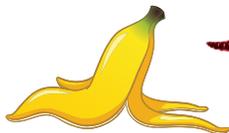


NYC Compost Project

GOLDEN SHOVEL



MASTER SCHOOL COMPOSTER



2015 GOLDEN APPLE AWARDS

This certificate is awarded with the sincere appreciation and esteem of a grateful Department and City in recognition of your school's efforts to help make New York City shine.



NYC
Recycles

City of New York
Department of Sanitation
Bureau of Recycling and Sustainability
nyc.gov/recycle

Created and funded since 1993 by the NYC Department of Sanitation, NYC Compost Project provides compost outreach and education to NYC residents, community groups, and landscapers in all five boroughs.

NYC
Composts

2015 Golden Apple Awards Contest Entry Judging Info

(This sheet prepared for judges' use by DSNY BRS)



ID Info: 15028
School: WHEELS - Washington Heights Expeditionary Learning
Grade Division: IS
Borough: M
Affiliation: DOE

(for borough Master School Composter)

Cash Prize: \$10,000
Reduce & Reuse Award: Citywide IS & Borough Winner

Golden Shovel Award: GS-M

Reduce & Reuse project entry

Turn Waste into Beautiful Gardens & Music

WHEELS' elementary, middle, and high school students collaborated on a variety of projects that assessed and reduced the amount of waste the school and community send to landfills by over 2,700 pounds per year. These projects involved composting food scraps, gardening, and creating musical instruments from reusable materials like bottles and cans. These efforts, spearheaded by the 7th Grade Compost Team, have been ongoing for 3 years, with support from the NYC Compost Project hosted by the Lower East Side Ecology Center, grants from WeAct for environmental justice, and the Citizens Committee for NYC, in addition to help from MillionTrees NYC and the NY Horticultural Society.

Weblink final

http://www1.nyc.gov/assets/dsny/downloads/pdf/golden-apple-awards/GA15_RR_IS_M_M348_WHEELS_entry.pdf

School Population: total # 700

Core Group:	Total Participating:
40	270

Prior Year Entries:

first entry

Current Entries

15:(HS)RR-part,(IS)RR-C,GS-M

Collaborations

- NYC Organics Collection
- NYC Compost Project
- GrowNYC RCP
- GrowNYC Grow To Learn
- MFTA
- NWF Eco-Schools
- NYRP MillionTreesNY
- NYRP Rose
- Citizens Comm for NYC

School Contact Information:

Phone: (212) 781-0524
Address: 511 West 182 Street
NEW YORK 10033
Block&Lot: 1021550035
DOE Location: M348
DOE Bldg: M143

Contest Coordinator: Graham Johnson
Principal: Brett Kimmel
Sustainability Coord: Justine Thomas
Custodian: Glenn Habel



Washington Heights Expeditionary Learning School (WHEELS)



Reducing and Reusing to Turn Waste into Beautiful Gardens and Music

Summary

Washington Heights Expeditionary Learning School (WHEELS) is a public school serving pre-K, kindergarten, and 6th-12th grade students in the Washington Heights neighborhood of Manhattan. We will add a grade each year until we serve all grades from pre-K to 12.

Our elementary, middle and high school students have collaborated on a variety of projects that reduce the amount of waste our school and community send to landfills by over 2,700 pounds per year. These projects involve composting, gardening, and creating musical instruments from reusable materials like bottles and cans.

Waste Prevention & Reuse Projects Implementation

We targeted food waste and reusable plastic, metal and cardboard from our cafeteria, classrooms and homes for reduction and reuse. This kind of waste accounts for a large part of the waste we throw out daily at school and at home. Instead of sending this waste to a landfill, we are turning it into compost for our school gardens, and turning bottles, cans and boxes into musical instruments.

Students collect an average of fifteen pounds of food waste from our cafeteria every school day. Some of our staff members add to this collection when they bring food waste from home. Other members of our community, like students from the university across the street, have heard about our composting program and brought food waste to us as well. Our students add this food waste to our compost bins in one of our school gardens.

Additionally, our students have built musical instruments from bottles, cans and boxes they brought from home. They learned that even items that seem like trash can be made into educational and artistic creations.

Project Planning

Composting Learning Targets (Objectives for Students):

- I can identify what can and can't be composted.
- I can explain the composting process.
- I can collect, sort and dispose of food waste effectively to create quality compost.
- I can explain how composting helps the WHEELS community and our environment.
- I can blend compost with soil in our school gardens to enrich the soil and help our plants grow.

Groups of middle and high school students studied composting in a week-long series of lessons with middle and high school teachers. These students created posters and slideshows to educate our students and staff about composting. They formed teams to

collect food waste, create compost, and put the compost to use in our gardens. These composting projects have been in action for three years, and every fall new students get involved.

Music Learning Targets:

- I can create percussion and string instruments from recycled materials.
- I can categorize instruments and explain how they work.
- I can play percussion and string instruments in an ensemble.

Our students created instruments from recycled materials. In music classes they studied Latin percussion instruments (including güiras, güiros, shakers, congas and claves) as well as instruments from the brass, woodwind and string families. Then they made authentic, playable instruments from recycled bottles, cans, boxes and other materials.

WHEELS high school and elementary school students collaborated to create shakers and string instruments from recycled materials.



WHEELS 7th graders drew inspiration from store-bought güiros and güiras (Latin percussion instruments) and made their own güiros and güiras from bottles and cans.



Student Involvement

Student volunteers in the middle and high school studied composting and then educated their peers. They made presentations at sixth and seventh grade community meetings and in the cafeteria during lunch. Throughout the school year, the seventh grade Compost Team is responsible for food waste collection during middle school lunch, and the high school Compost Team is responsible for food waste collection during high school lunch. The high school team empties the food waste collected each day into our compost bins in one of our school gardens. Small groups of elementary, middle high school students have used the compost when planting flowers and other plants in our gardens during Crew (advisory) periods, regular class time, and during our middle school's Global Kids after school program.

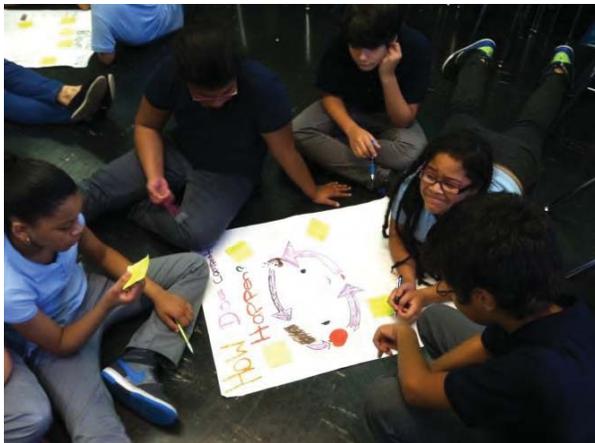
Elementary and middle school students create and play musical instruments from recycled materials during regular music class time and during Crew periods.

Promotion

The logo on the buttons worn by our seventh grade Compost Team appears below. The students are very excited to wear these badges of honor!

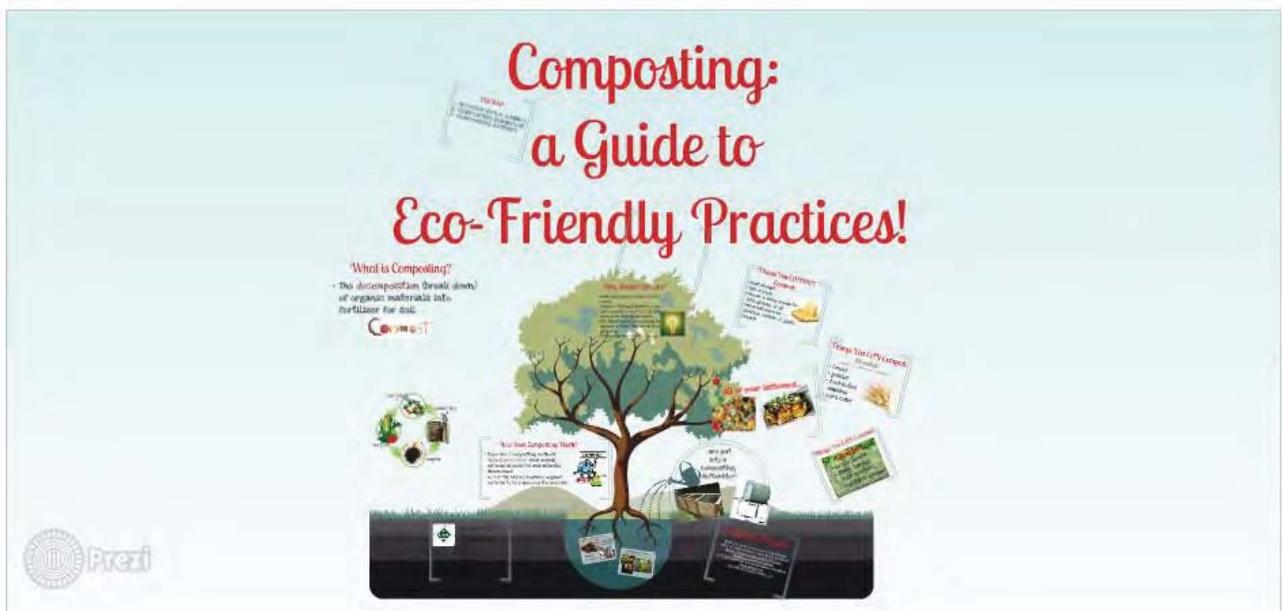


Below are photos of some of the posters sixth and seventh graders made to educate the rest of the school about composting. Also included in these photos is work seventh graders completed as they planned and implemented community service projects involving waste reduction and gardening. They made connections with Paul Fleischman's book, *Seedfolks*. These projects required students to conduct some of their own research to determine what we should compost, how we should compost, and which plants might grow well in our gardens.





Here are slides from a lesson about composting, designed by one of our high school students:



What is Composting?

- The **decomposition** (break down) of organic materials into fertilizer for soil.



How Does Composting Work?

- There are 2 composting methods:
 - Natural processes:** when organic material is collected and naturally decomposed.
 - Worms:** the worms consume organic material to help speed up the process.

Fr

Why Should You Care?

- Waste becomes a resource, not trash.
- Instead of filling landfills, we can use compost to fertilize soil and grow more organic products.
- WE save money by reducing the amount of trash that needs to be picked up.
- It can help slow climate change.

Things You CANNOT Compost:

- Meat scraps
- Fish scraps
- Cheese & dairy products
- Pats, grease, or oil
- Materials such as plastics, metals, or glass
- Liquids

Things You CAN Compost:

Browns

(leafy, dry, carbon-rich materials)

- bread
- grains
- food-soiled napkins
- corn cobs

Greens

- Green plants
- Fresh leaves
- Fruit scraps
- Vegetable scraps

All of your leftovers... are put into a composting



Here are photos from work in our gardens and tree gardens around our school. You can see students emptying food waste into our compost bins, building tree guards, placing compost and plants in the tree pits, and planting bulbs and lily turf:





Collaboration

- Three years ago our high school was written into a \$20,000 grant with WeAct for environmental justice to start our compost program. This grant supported our collaboration with the Lower East Side Ecology Center to build our compost bins, and Vokashi to educate us about composting methods.
- We have received \$750 from the Citizens Committee to expand this composting program. The Citizens Committee for New York City has also given us \$1000 for the construction of tree guards around our school.
- Million trees NYC gave \$500 for lily turf and other street tree care materials.
- The Horticultural Society collaborated with Global Kids (our middle school after-school program) to teach lessons in our school gardens twice per week in throughout the spring of 2015.
- Alianza Dominicana, an independent program with an office in our school building, has kids work in our gardens during their summer programs.

Educational Components

Our middle and high school students created posters and presentations to educate our school community about composting. Some of our seventh graders planned and implemented community service projects involving waste reduction and gardening. They made connections with Paul Fleischman's book, *Seedfolks*. These projects required students to conduct some of their own research to determine what we should compost, how we should compost, and which plants might grow well in our gardens.

Our musical instrument building projects taught students about instrument families, how instruments make sound, and how to play authentic percussion instruments. Elementary and middle school students used these instruments in ensemble playing.

The standards addressed by these projects include New York State Learning Standards for Science, English Language Arts, Math, and the Arts. Here are some examples:

- Intermediate Science Standard 7: Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.
- Arts Standard 2: Students will be knowledgeable about and make use of the materials and resources available for participation in arts in various roles.
- Common Core Math Standard 6.SP.4: Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
- Common Core English Language Arts Standard 7.W.7. Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.

Project Analysis

We successfully reduced the amount of waste our school sends to landfills by putting food waste and recyclable materials to use. We have saved over 2,700 pounds of waste from being sent to landfills in each of the past three school years.

We still throw out more waste than we should. We are trying to improve our compost collection system so that we collect 100% of the compostable food waste that is being thrown away. We also would like to implement additional methods of reducing waste, like using compostable cafeteria trays instead of Styrofoam trays, and collecting more materials for reuse in school projects.

Applicability to Other Schools

Student investment is key. It's amazing how the students have taken the lead on many aspects of our composting, gardening, and recycling projects. They love to work collaboratively across grades, and form teams to take on special projects outside of regular class time.

Our school's composting efforts could be replicated by other schools with similar populations. Schools would need space and funding to build compost bins, and depending on the type of food waste and method of composting schools will need wood chips, worms, bacteria or other components to be mixed with food waste. Otherwise, the only other investment needed is time for students and teachers to educate themselves and each other

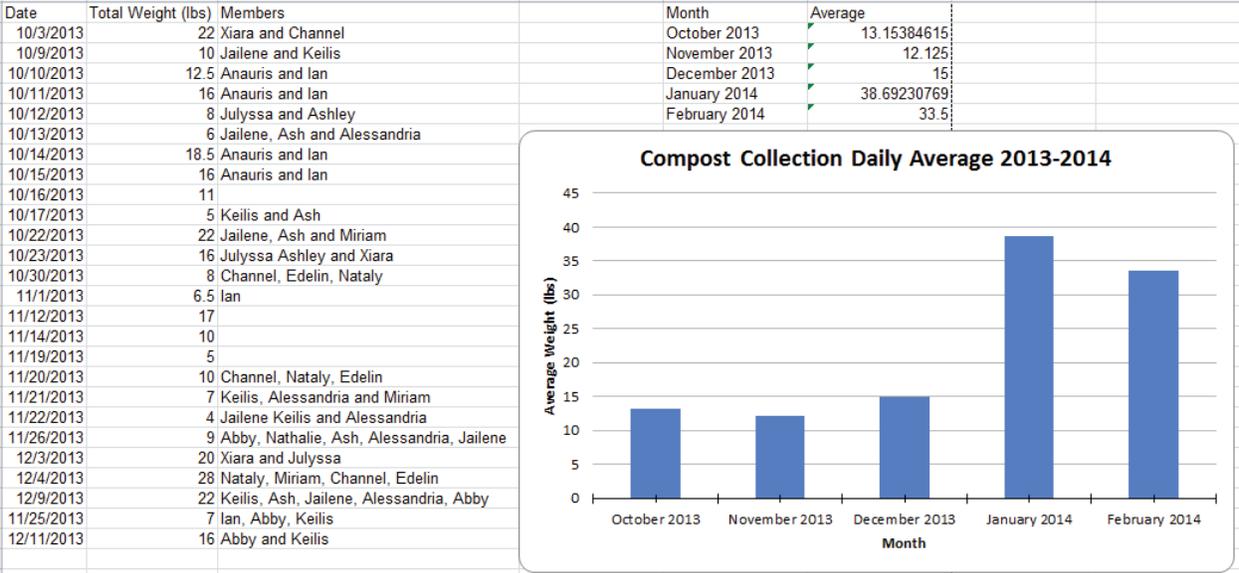
about composting, and to implement a system for collecting food waste and creating and using compost.

Projects focused on creating instruments from reusable materials could also be replicated at other schools. Students and teachers need basic knowledge of the instruments they want to create. Many of our students play, dance and listen to Latin music, so it was natural for us to study and create Latin percussion instruments.

Measuring Success

We have improved the health of our environment, made our community more beautiful, developed collaborative skills in our students, educated our school community about composting, and taught our students how to create and play their own musical instruments.

The spreadsheet and chart below were created in Microsoft Excel by our high school students to track compost collection during the 2013-2014 school year. We have continued to collect about the same amount of food waste (an average of 15 pounds per day) throughout the 2014-2015 school year.



We have been collecting an average of fifteen pounds of food waste daily for nearly three school years. That means that in each of the past three years we have saved about 2,700 pounds of food waste from being dumped in landfills. Not only does that help the environment – it also saves New York City money on trash collection.

Students collect and sort food waste and fill compost bins independently. We’ve successfully taught our middle and high school students to work collaboratively and run a composting program with minimal guidance from teachers.

Healthy flowers, trees and other plants are currently growing in our school gardens. Our compost has improved the quality of the soil in our gardens.

Pre-K, kindergarten, sixth grade, and seventh grade students built and played their own musical instruments. They now have a deeper understanding of how instruments work, how to play in an ensemble, and how to reuse materials in creative ways instead of throwing them away.

Future Plans

With additional funding we could purchase compostable cafeteria trays. Styrofoam trays account for a large part of the waste our cafeteria produces every day, and replacing these trays with compostable trays would greatly reduce the amount of waste our school is sending to landfills and produce more compost to use in our gardens.

We could also purchase materials to build additional tree guards, raised beds, and planters for our school. We could purchase plants, wood chips, and other gardening materials.

Additional Information about Composting

Our composting efforts have been sustained for three years and will continue. Every year more students have become involved with composting and working in our school gardens. Our students will also continue to make instruments and other useful creations from reusable materials.

Please see above for additional information about our composting projects, including collaborations with outside organizations, compost education efforts, and ideas for how our composting efforts could be replicated by other schools with similar populations.