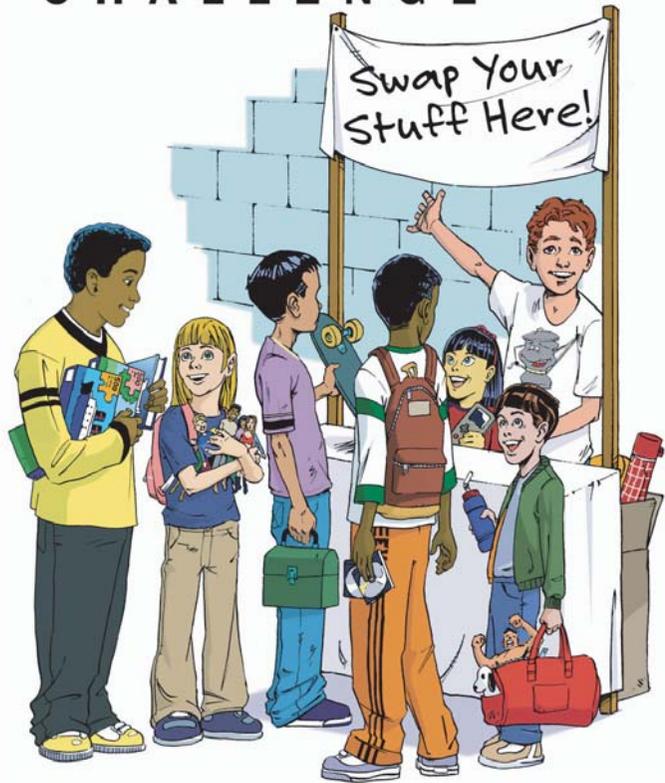


TrashMasters!™
REDUCE & REUSE
CHALLENGE



Intermediate Division
Manhattan Borough
& Citywide Winner

Grace Church School

2012 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 Waste Prevention, Reuse and Recycling
nyc.gov/wasteless



2012 Golden Apple Awards Contest Entry Judging Info

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



ID Info: 12024
School: Grace Church School
Grade Division: IS
Borough: M

Golden Shovel Award contestant
(for borough Master School Composter)

2012 Project Entries received for:

School Population: total # 410

TrashMasters! Super Recyclers

Received:

Core Group:

Total Participating:

TrashMasters! Reduce & Reuse Challenge

Received: 5/1/2012

30

45

Food is Our Common Ground

At Grace Church School, we have been studying plastics, food waste, and waste reduction, as well as developing deeper sustainable habits to reduce our waste stream. Students focused on learning about local New York State endangered species and about how

TrashMasters! Team Up to Clean Up

Received:

Prior Year Entries:

07:RR-part(LM),RR-hon(IS);09:RR-city(IS);10:RR-city(IS);11:RR-wd

School Contact Information:

Phone: 212-475-5609
Address: 86 Fourth Ave
New York 10003

Block&Lot: 1005570001
DOE Location:
DOE Bldg:

REQUIRED for Super Recyclers only:

Custodian: Pete Hogden
Custodian's Phone:
Custodian's Email: phogden@gcschool.org

Sustainability Coord:

Contest Coordinator: Kim Chaloner
Coord Phone (if different): 917-886-3336
Coordinator Email: kchaloner@gcschool.org

Principal: George Davison, Head Master
Principal Email: gdavison@gcschool.org

Comments (may not be relevant to judging)

Info Confirmed: 6/6/2012

6/6/2012



**GRACE CHURCH
SCHOOL
GOLDEN APPLE TRASH-MASTERS
2012**

SUBMISSION FOR THE REDUCE AND REUSE
CHALLENGE & GOLDEN SHOVEL AWARD



Dear Department of Sanitation Trashmasters Program,

At Grace Church School, we have valued the opportunity to assess our yearly programs through the Golden Apple program. Both this year and last, we were able to further our goals in waste reduction, reuse, and composting. More importantly, we have begun a program that aims to connect our children's sustainability efforts with children around the city, and around the world.

Inspired by observations we've made at the Green Schools Alliance fair in 2010, and at other independent and public schools, we were able to implement new programs for composting, planting, and food sourcing, and waste reduction in the past two years. We have also tried to participate in programs that help connect our children to other schools, such as the Green Cup Challenge via the Green Schools Alliance, and the 20/20 Challenge via the National Association of Independent Schools.

In 2012, GCS will open a High School Division. This exciting event has prompted our school to look for the most sustainable programming, curricular choices, and community innovations we can implement in the new school building at 50 Cooper Square. This planning process has been added to our list of programs this year.

We hope you enjoy reading this submission. Please let us know if we can provide any further information.

Thank you,
Kim Chaloner
Sustainability Coordinator
Dean of Community Life

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I. COVER PAGE: Participation Statistics and Registration Info

II. Composting Program 2010-2012

III. Waste Prevention Programs 2010-2012;

1. Summary of 2010-2011 with Dr. Wangari Maathai
2. Greenhouse Program
3. Field Trips to Visit to Greenroof Projects - Gramercy Tavern and Brooklyn Grange
4. Plastics and 20/20 Challenge Participation
 - a. New York State Endangered Species: PPTs and posters
 - b. Plastic and the Ocean Environment: Youtube video
5. Green Cup Challenge - Recycling Challenge
6. Earth Day Carnival - Green Gremlins and the Student Council Team Up
7. Annual Reducing Waste at Events: Costume Swap, Parent Night Re-Useables, International Family Night (Korea)*, Auction Recycling, and the MayFair, Nail Polish Swap*, Freecycle Website*. (*new to this school year)
8. 2nd Annual Earth Dinner for Families, Faculty, and Staff
9. HS Program Plans and Pilot Program with Re-Visit Day Biodiversity in the Neighborhood

IV. Links to videos, Power Point presentations, website, and HS Division information at the end of the document.

V. Appendix - Brief assessment of standards-based approach to sustainability program

COVER PAGE INFO:

- School Number: n/a
- Official School Name: Grace Church School
- Street Address, City, Zip: 86 Fourth Avenue
- Phone #, Fax #: 212-475-5609, 212-475-5015
- Principal: George Davison, 212-475-5609, gdavison@gcschool.org
- Contest Coordinator: Kim Chaloner, Sustainability Coordinator, kchaloner@gcschool.org, www.greengremlins.org
- www.gcschool.org

CONTEST ENTRY INFO

- Borough: Manhattan
- Grade Division Intermediate
- Contest Entry Title: Food is Our Common Ground!
- Contest Entry Summary:

STUDENT INVOLVEMENT:

Student Participation: Core Group #Term 1: 14, Term 2: 14, Term 3: 10. These are the members of our "Green Team," or the "Green Gremlins."

Student Participation: Total # On the "Green Team" for 5-8, we had roughly 20 students. For the other Sustainability programs, such as science class, greenhouse work, and Student Council, we have 158 Upper School Students and 248 Early Childhood and Lower School Students.

School Population: Total #406

FACULTY INVOLVEMENT: 4 in the Main Group

Coordinator: Kim Chaloner - Sustainability Coordinator, Dean of Community Life, Student Council Co-Coordinator, Science 2 & 7, Diversity Council Coordinator

Co-Coordinator: Schuyler Semlear - Science Teacher for 1, 3, 4

Co-Coordinator: Jean-Robert Andre - French and Science 5th

Andrew Ritsema - French, Student Council Co-Coordinator

Lauren Turner - 2nd Grade Homeroom and Food Committee

ADMINISTRATIVE AND STAFF INVOLVEMENT: 7 in the Main Group, not including the Head of School

Jude Sheehan - Chef

Max Fuentes - Maintenance Staff

Cammy Ollivieros - Maintenance Staff

Pete Hogden - Head of Maintenance Staff

Barbara Haney - Head of Lower School and Food Committee Member

Cheryl Kelly - Head of Early Childhood and Food Committee Member

Carol Collet - Head of Upper School, Assistant Head of School

Parents Coordinators and Volunteers: 7 in the Main Group

We had a 7 parents volunteer to carry compost to the Union Square Green Market for 6 months

There are 5 parent members of the Food Committee who participated in our Earth Dinner, and in organizing our Composting Program

We have 2 parents who co-chair the Sustainability Task Force

Description of Project (250 words or less):

At Grace Church School, we have been studying plastics, food waste, and waste reduction, as well as developing deeper sustainable habits to reduce our waste stream. Students focused on learning about local New York State endangered species and about how plastic rubbish hurts our local and global ocean ecosystem for the NAIS 20/20 Challenge program, where we partnered with schools in Baton Rouge and Guadalajara. We exchanged .ppt presentations and videos, learning about how our efforts to protect biodiversity compared. Students built on their 2010-2011 program that focused on food, food security, food waste, and honored Nobel Peace Prize laureate Dr. Wangari Maathai. The Student Council and the Green Team worked together on an Earth Day Carnival where we helped children learn more about waste, cities, and recycling. Booths focused on fun, engaging learning games, rather than waste and plastic prizes. It included planting booth, recycling contests, and a DJ/sound booth to create a message to send to the Rio 20+ summit for Sustainable Development. Our students were a part of the Green Schools Alliance Green Cup Challenge to improve community education about recycling properly. We hosted our 2nd annual local and organic Earth Dinner where children and parents brought their favorite earth-friendly recipes and foods. We also began a composting program at our school that has grown from 4 small worm bins in the spring of 2011 into a school-wide program that includes compost pick up and 11

vermiculture classroom bins.

Much of our work is recorded in our blog as well:
www.greengremlins.org



Composting Program 2010-2012

IMPLEMENTATION:

Why this?

Thanks to our experience working with the Lower East Side Ecology Center, GCS had been exposed to the benefits of composting from Master Composters for the past few years. We had one or two vermiculture bins in our building, but no coordinated efforts until the spring of 2010. Knowing that food waste is such a significant portion of municipal wastes, and that they contribute, through the production of methane, to powerful greenhouse gasses in the atmosphere when not composted, we decided to step-up our efforts and become a composting school. As you read this description, you will see how trouble shooting bin management lead us to build our program into an even more substantial one.

What did you do? How did you reduce this waste?

First, we piloted the program in classrooms. We gave 1st, 2nd, and 3rd grade homeroom classrooms a small vermiculture bin to place wastes from their daily snack, which often includes banana peels, apple cores, and other vegetable and fruit wastes. Children on the Green Team assembled the bins, and helped to train teachers in how to use them. The Science Department kept the "master" bin. Teachers were encouraged to throw their compostable coffee cups and tea bags into the bins as well. While we have been using compostable drink and soup containers for 3 years, we have not always made sure that these waste items were composted.

Project planning.

Our objectives were, initially, to see if composting in the classrooms would be viable, and if the training and maintenance of our students would suffice for the classrooms. We hoped to teach the children additionally, that what seems like waste can actually be a valuable resource - i.e. compost for growing more food. As mentioned above, we planned to pilot the program in the spring of 2011, then expanded on it in the 2011-2012 school year. This involved monitoring progress with teachers, sharing tips and resources through an online group, and help with troubleshooting issues that arose with the bins. In the fall of 2011, many more teachers volunteers to compost in their classrooms, and we had a maximum of 11 bins running.

After meeting with our food committee, a group of teachers, parents, staff,

and administrators, it was determined that the school should try to extend composting to lunch. At GCS, we have three lunches served, family style, per day. The challenges lay in how to teach the children to collect the food to compost, sorting for plant matter only, and to have the compost itself picked up and brought to the Lower East Side Ecology Center Drop Off at the Union Square Market. The plans resulted in the following;

- a. The kitchen began collect both pre and post preparation food scraps. What vegetable matter was not used in making stock was collected for composting.
- b. The Division heads at each lunch asked for volunteers to collect compost at the end of the lunch. In Early Childhood, 2 students brought a bag around to the tables for collection. In Lower School and Upper School, children brought their own compost to the front of the lunchroom to a special receptacle.
- c. After sending out an invitation to parents and teachers, we got many volunteers to help bring the compost to Union Square on Wednesday and Friday afternoons. Using a live Google Doc spreadsheet, we recorded volunteer contacts, a schedule/calendar for pick up, and the number of pounds collected. We eventually collected over 4,000 lbs according to our records.
- d. After six months of vermiculture bins and the compost pick-up volunteer schedule, we heard from the Lower East Side ecology center that our program had reached the end of their capacity. This lead our team to decide that we were ready to pay for a pick-up service. As of today, we have a contract with IESI, via the New York Composting Project, for 2 picks up per week. While we still have some vermiculture bins, we now have the capacity to compost more materials, and at a greater volume. We already see that we could double our input for the next school year.
- e. Because of our chef's interest in green programs, we have been able to begin negotiating a contract with the **Green Restaurant Association** for certification. Our school should be composting from now on, and at the highest volume we can. Our composting program will be a big part of the certification process. Additionally, as will be described later, the school's HS program will include a lunch program where students not only compost, but they make their own food, and use the compost in their biology program. For more detail, see this video; <http://vimeo.com/33726998>

Student involvement.

Our students got involved in our composting program at many stages. While our school does not use the state standards, we never-the-less have a many lesson-based and experience-based program components. Below is a list, by division, of the ways in which the children experiences composting. See our appendix for information about standards for the state and how we feel our

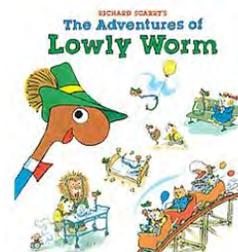
program complies. At the end of this document is a brief description of how these activities apply to state science standards.

Early Childhood Students (Jk and K):

Student collect compost at lunch. All get turn to be the "helpers" in a rotating schedule

Students in these grades have vermiculture bins maintained by teachers in their classrooms. During snack they observe the worms and talk about how long it takes for them to process foods.

Earth Day 2011: Lowly Worm coloring pages. Students explore "worms" in class via the lovable "Lowly"



Lower School Students (Grades 1, 2, 3, 4):

2nd Grade Science Curriculum: This year of science focuses on Natural Resources. During the 2011-2012 school year we engaged in additional lessons that focused on the components of soil, and on soil resources. This included using a beautiful set of photographs from the ebook "Our Choice" by Al Gore. Greenhouse Program - described in more detail next, the greenhouse students use the greenhouse to not only grow food, but eat their crops! Compost is used to enrich the soil in both the greenhouse and the church garden.

Upper School Students (Grades 5,6,7,8):

As mentioned above, the Green Team and the Student Council both worked on the compost program this year. The Green Team students go to individual classrooms to help maintain bins, and set the bins up for their new "homes." The Student Council, along with the Green Team, set up a planting and compost education booth at their Earth Day festival, where for a small donation children could get a gummi worm and oreo "Compost" snack (example image here: <http://www.someplaceinbetween.com/files/dirt-cups.jpg>) "Adopt a Worm" in the 6th Grade was a fun game the 6th grade homeroom played while maintaining their bin.

Wider Community

As seen in this example post on our blog, (<http://greengremlins.wordpress.com/2011/07/20/ms-smiths-beautiful-home-garden/>) the compost we collect is used by home gardeners and, this year, will be a part of the planting at the

Grace Church garden.

Promotion.

During the school year we used all of the media available to us within the school to promote the project. Attached to this program description is our sample of our monthly email blasts to teachers. Parent's Association emails, and emails to faculty, and signs (as described in our Green Cup Challenge section) helped children identify what they could compost as well. Faculty Meeting announcements were used as well.

Collaboration.

For this project we worked with the Lower East Side Ecology Center, and consulted with the NY Compost Project (<http://www.newyorkcompost.com/>) and a representative of the Human Impact Institute on the use of our new compost program pick-up service. IESI is the pick up company.

Could your school's composting efforts be replicated by other schools with similar populations? Please explain.

Yes, I think that the process we followed could be used in another school. The important components were the following; teacher training and education, starting with pilot programs, measuring and assessing composting needs, identifying how to make the "full circle" clear to all the community members.

PROJECT ANALYSIS:

What worked? What were the most successful aspects of this project?

We succeeded in developing the program towards its expansion, and in getting children to feel great about being composters. Additionally, we were able to have the administrative and business offices see the value in adding a composting budget to our permanent program.

What didn't work? What were the least successful aspects of this project?

This is a very important part of our program, our problems led to some lack of "trust" in the idea of composting, but also lead to solutions for expanding the whole program and allowing for many different kinds of composting.

Small problems with managing vermiculture bins were an impediment to furthering the worm bin program. Mites and fruit flies turned many teachers away from using bins, but because they and their students were committed to avoiding waste, they were inspired to begin adding compost to our kitchen collect. The same was true for the bin in the faculty room. The cost of pick-up was a problem at first. Knowing that there was a free option at the Union Square greenmarket drove the

group to try dropping off wastes there first. As we learned about the efforts involved in coordinating volunteers, and the ambitions our kitchen had to become a certified green restaurant, we moved towards the decision to pay for the service. It took a few weeks to iron out the kinks with the new system for the maintenance staff, but ultimately, the program works well today.

- frustration with how "slow" the bins process materials when they are just getting started
- difficulty getting the humus from the soil without taking the worms along

Measuring success & Explain any impact on the students or community:
Describe how you measured the success of your project.

To measure the success of this project, I think the best measure is in the everyday habits developed by the children in our community.

They are constantly asking about their worms, wondering what is compostable, and acknowledging the benefits of having food waste not reach the landfill.

Composting Documentation:

The majority of our documentation is hosted at our green blog;
www.greengremlins.org



Example of Bin set up for homeroom composters.



Our students regularly collected tea bags from home! Kids on the team helped set up bins for teachers, and brought them new newspaper and other needs while they maintained their bins.

Photo of parent volunteer: <http://greengremlins.wordpress.com/2011/11/16/1050-lbs-and-counting/>

Monthly Compost Email Samples:
(Sent in Sept, Oct, Nov, Dec, Jan, Feb, March, May)

SENT: December 2011

Dear Composters,

In this last compost email of the year, I want to update you on news about the compost program.

- Our compost collectors in the EC and LS, as well as our parent volunteers, have collected and delivered over 1,200 lbs of compost to the Green Market this fall!
- Bins will be fine on their own during the holiday break! Be sure they have enough shredded newspaper covering the top, we have plenty to give you if you need it.
- The fruit fly infestation on the 2nd and 3rd floors resulted in taking bins from the faculty room and 1st and 2nd grades to the 6th floor. Those bins will remain upstairs temporarily, and will then be delivered back. Bins in EC and on the 4th floor, and the High School, luckily, were not affected. Some tips to avoid attracting flies in the future;
 - place food UNDER the newspaper covering on the top. Flies originate from fruit peels
 - do not place liquids in the bin

do not overfeed the worms. As the bin builds a layer of castings, it will be able to take more compost, but if it only has a thin layer now, allow it to build up. Undecomposed scraps will develop mold, so keep scraps to the level the bin can handle.

While they don't make good composters, did you know that there is actually a marine species called the Christmas Tree Worm?
Happy Holidays! **Kim** (<http://marinebio.org/upload/Spirobranchus-giganteus/1.jpg>)

Summary of Sustainability and Waste Prevention Programs 2010-2012

2010-2011

Dr. Wangari Maatha: Seeds of Peace



IMPLEMENTATION

- **Why this?** During the 2010-2011 school year, we did not apply for a Reduce and Reuse award. During this year, however, we carried out a program that helped deepen our work in areas we covered between 2005-2010, such as paper use and forests, our carbon footprint, water use, and energy use. Inspired by the work of Dr. Wangari Maathai and the Green Belt Movement, we focused on food and food wastes, as well as global issues like food security, and the environmental impact of food production. After a year of working on a study of food and Dr. Maathai's work, it led us to find new and innovative ways to approach waste reduction.
- **What did you do?** How did you reduce this waste? A thorough examination of how we fit into the big "food" picture led us to two years worth of programming, and a school-wide focus that we plan to explore for years to come.



- Project planning.** During the summer of 2010, science teacher Kim Chaloner, and art teacher Beverly O'Mara, both began a study of the work of Wangari Maathai. Kim chose to use her work with the world seed bank as an inquiry point for the 2nd grade science class to study seed banks and biodiversity resources. During our discussions with the Martin Luther King Day working group, we also wanted to honor Dr. Maathai's work in conflict resolution and women's rights for our Civil Rights Heroes project. Ms. O'Mara wanted to create a large scale puppet of Dr. Maathai for our annual peace march. Together this was built into a year long program. During the summer of 2011, Ms. Chaloner and Ms. O'Mara travelled to Kenya to work with the Green Belt Movement for two weeks. The executive director of the Green Belt Movement, Professor Karanja Njoroge came to our school to find out more about our students work, and we had the great honor of giving him a tour and introducing him to our students. Sadly, a week later, Dr. Maathai passed away. We will continue to honor her work at GCS with a tree planting at the new high school, and in our food program and international outreach.

- **Student involvement.** Our entire student body studied the work on Wangari Maathai in various ways.

All Lower School and Early Childhood students visited the Green Market with our chef to learn about what foods are local and how we can reduce waste and shipping with local food sources. He discussed his food choices with the children all year long. For early childhood students, we looked at food resources and read the children's books about Dr. Maathai's life:

Wangari's Trees of Peace: A True Story from Africa by Jeanette Winter

Mama Miti; Wangari Maathai and the Trees of Kenya by Donna Joe Napoli and Kadir Nelson.

2nd grade Students studied food resources by studying the Norway World Seed Bank and then creating seed banks of their own. They ate foods they loved in the fall, collected the seeds from those foods, and planted them in the spring. We discussed our soil resources are important and rare, and how protecting seeds and not wasting food is an essential part of sustainable living

Upper School students on the Green Team and in the 8th grade wrote letters to Wangari Maathai to honor the work she does with the women of Kenya.

All students honored Wangari Maathai's work for our annual peace march in January.

Adults in our community had a panel of food and food resources. We also created an Earth Dinner (described in another section below) A link to this program can be found here: <http://greengremlins.wordpress.com/2011/03/26/food-is-our-common-ground/> Adults in the community tried to re-assess how we use food resources, where we source our foods, and how we create waste related to food. More about how our dinner helped reduce waste is described in that section.
- **Promotion.** During the school year we used all of the media available to us within the school to promote the project. Parent's Association emails, and emails to faculty, and signs (created for the Dr. Martin Luther King, Jr. Day march) helped children see that the "Seeds of Peace" are related to how we respect and learn about our local food environment. A joint project of the Diversity Council and the Sustainability Task Force, this project and this ideas it supported were a big part of many classroom discussions and faculty meetings.
- **Collaboration.** Ms. O'Mara and Ms. Chaloner had the opportunity

to work with the Green Belt Movement themselves. We applied for a Faculty Travel Grant in February of 2011 and won! This was an enormous honor, and while it didn't involve the children directly, it has led to our latest exchange program planning. We hope to bring 10th graders to Kenya for an exchange with the Green Belt Movement in 2013, and we have proposed plans underway. An article about our exchange programs can be found here; http://www.nytimes.com/2012/03/31/nyregion/world-travel-opportunities-grow-at-private-schools.html?_r=2&scp=5&sq=jenny%20anderson&st=cse

Information about our trip can be found on our blog:
www.growkenya.wordpress.org

- **Educational components.** See appendix

PROJECT ANALYSIS

- **What worked?** As a concept, taking a look at our food program through the eyes of this civil rights leader's call to plant trees for peace, was a great success. It was easy for children of many ages to work on finding their way to look at food, peace, and sustainability.
- **What didn't work?** During the year, we aimed to make the connection between the food we eat, the food we grow, and the food we ship and package clear. We could always strengthen this connection with more conversations and more attention to detail in food wastes. We still see children taking more food than they plan to eat at lunch, and hope to find ways to avoid that.
- **Applicability to other schools.** Yes, I think that using a civil rights leader to help children get inspired to look at whether or not they think in sustainable ways, and dream of a sustainable future, would be a great project to share with other schools.
- **Measuring success.** As mentioned at the beginning of this section, or subsequent composting program, and our efforts to continue to honor Dr. Maathai by making our kitchen a composting kitchen with less waste, local resources, and respect for food, was our measure of success. While this program is not directly related to the Trashmaster's competition, I believe that it deeply informs our programs implemented in 2011-2012.



Greenhouse Program

IMPLEMENTATION:

Why this?

The greenhouse is an essential aspect of sustainability at GCS. The greenhouse is used by the lower school students to not only learn about gardening and plant growth, but also to supply the school's lunch room with food. Thanks to the efforts of Lower School science teacher Mr. Semlear, a revival of our greenhouse program has been a rich addition to our children's understanding of reducing and re-using wastes.

Children learn about the process of food production, learn about food biology, and learn about good stewardship of environmental resources. In an effort to teach children about how to reduce wastes, we emphasize the relationship between the school and the Union Square Greenmarket, as well as the value in home gardening and local food.



In addition to the growing of food and preserving of resources in the greenhouse, the children have the unique opportunity to eat their "crops." Our school chef, Jude Sheehan, has been able to incorporate basil and lettuce into his meals and, during the 2010-2011 school year, created

- **What did you do?** How did you reduce this waste? The greenhouse program helps the students learn about planting resources. They compost in the greenhouse, and learn about vertical gardening. Using urban spaces, and re-used materials, to create greenspace in NYC.
<http://www.gcschool.org/community/sustainability/in-the-greenhouse/index.aspx>
- **Project planning.** These can be seen on our greenhouse website - the site was created by Schuyler Semlear to allow kids and parents to

see the planting schedule, and to share tips about home gardening.

- **Student involvement.** In science classes for 1-4, planting is used regularly. For classes in 5-8, we have a Greenhouse Elective run by our resident farmer and Latin teacher, Dr. Wheeler. Students in the green team additionally learned about roof gardens and green space project through field trips (described in the next section).
- **Promotion.** Creating the greenhouse website was our most successful promotion. When the children had the opportunity to make food with their own plants, they were additionally promoted on the school's online calendar in the student and parent portal.
- **Educational components.** Please see appendix.

PROJECT ANALYSIS:

- **What didn't work?**
The least successful aspects of the greenhouse project were attempting to sustain growth during the winter months when sunlight was extremely limited. This did though help students learn about the importance of sunlight to plant growth.



- **Applicability to other schools.** First off, a greenhouse can be a lot of work, but you do not need a large scale greenhouse to make school gardening a success. Start with a sunny classroom in the school and use recycled containers (milk Cartons, Yogurt Containers, etc as planters. Window gardening although not large scale can teach students the importance of sustainable living and ultimately where food comes from.

- **Measuring success.** Success of the Greenhouse project was measured by student engagement. As we grew herbs and other plants, students became interested in trying new foods and growing plants on their own. The most rewarding projects were those where we grew a plant, helped prepare it in the kitchen, and then ate it at lunch. The 3rd grade grew a plethora of basil which they harvested, worked with the chef to make pesto, and then ate it at the schools dining room. Talk about Greenhouse to Table. When students are enthusiastic to taste and try new plants that they grew, I believe that is a true measure of success.

Field Trips to Visit to Greenroof Projects - Gramercy Tavern and Eagle Street Farms



IMPLEMENTATION:

- Why this?** In order to better understand both how re-use projects work in gardens, and how local roof-top gardens help reduce waste and protect buildings and water resources, field trips to real roof gardens provided an inspiring way to look at food and NYC.
<http://rooftopfarms.org/education/>
- What did you do?** First, our Green Team visited a re-use extravaganza - the Gramercy Tavern Rooftop Garden. Members of the cooking and hosting staff were inspired to use broken hotel equipment to create their own roof-top herb and small vegetable garden. They used equipment like a giant duck fryer to make a sturdy compost holder, and used old lobby decor as planters! Students learned a great deal about innovation and green-roof space. At the Eagle Street Farms, students learned about how a large compost program works, how wastes can be used as building materials (many components

of the roof top farm are made from re-claimed materials) and how delicious local organic food can be!

- **Project planning.** This project was organized as two field trips. Students were asked to reflect on their experiences as they thought about our local greenmarket, and our own greenhouse.
- **Student involvement.** Green Team members (Gramercy Tavern) and the 2nd Grade (Eagle Street) were involved in these two trips.
- **Collaboration.** The Gramercy Tavern and the Eagle Street Farms were our collaborators. We are lucky to have two parents who were able to organize contacts to these locations. Students were also able to organize visits to the new DeKalb Market.
- **Educational components.** See appendix

PROJECT ANALYSIS:

- **What worked?** Seeing these greenspaces in action inspired our students to think about our building in new ways. The new vertical gardening in the greenhouse was one result. Planting tomatoes in “upside down” paint buckets and plastic planters was another interesting experiment that resulted from our trip experience.
- **What didn't work?** It would be great to have the students visit the greenspaces during different seasons. We only visited the spaces in the late fall, and seeing the planting season would be a great addition/improvement.
- **Applicability to other schools.** Eagle Street and other green roof projects have education programs. The Gramercy Tavern Greenroof has closed, unfortunately.

Plastics and 20/20 Challenge Participation

IMPLEMENTATION:

- **Why this?** “Challenge 20/20 is an Internet-based program that pairs classes at any grade level (K-12) from schools in the U.S. with their counterpart classes in schools in other



countries; together the teams find local solutions of one of 20 global problems.”

(NAIS) The book High Noon, by

J.F.Rischar, is the inspiration for the

program. We were assigned to read the section on Biodiveristy and use it to come up with solutions to plastic waste reduction.

For this project, we focused on two areas of BIODIVERSITY with our partner schools. As a New York team, we investigated these areas;

- a. New York State Endangered Species
- b. Plastic wastes and the Ocean Environment

- **What did you do?** We participated in the NAIS 20/20 Challenge
- **Project planning.** The objectives of the program were outlined by the 20/20 organization. In planning the collaboration, our team was assigned to work with the team leader in Baton Rouge. We followed guiding questions written by their team (The Episcopal High School) and responded to presentations and questions written by the team in Guadalajara (The American School). The collaboration had many parts, the they are outlined by the Episcopal High School here: <http://biodiversityandecosystemlosses.wikispaces.com/>
- **Student involvement.** Our students made several power point videos about local biodiversity and how plastic waste affects animals. The videos and Power Point links are listed in the last segment of this submission. Students worked hard to post their ideas and share their thoughts with the other two teams on the Taking it Global and Wikispace networks.
- **Promotion.** Our team worked on three different “social network” sites to communicate. First, we used Taking it Global, Education (www.tiged.org). We also used Wikispaces. Finally, we uploaded our final project to YouTube: Link to a rough draft of our video about our yearlong study of plastic waste: <http://youtu.be/Vuol9bt3qwo>
- **Educational components.** See appendix

PROJECT ANALYSIS:

- **What worked?** This collaboration was a challenge for our school. We were looking forward to live collaboration over networks like Skype, as

well as having lively exchanges with the students on the other teams. To some degree, this succeeded. We had a great time viewing and sharing projects with the Mexican team, and some of our students exchanged ideas about biodiversity and ocean resources on the Taking It Global website.

- **What didn't work?** Unfortunately, we did not succeed in collaborating over the networks available as much as we would have liked. Technical hold-ups and schedule conflicts led us to exchange ideas with less feedback than we expected, making the "exchange" less ideal. In the future, I hope that international exchanges and programs we try over the internet are more directed by the children themselves so that they can use their own time to communicate. The schools switched social networks several times, and several schools wanted to prepare research before our first meeting, making the contact students experienced short.
- **Applicability to other schools.** If other independent schools were interested in trying a 20/20 project, I would recommend that they make plans for early collaborations that precede research, so that the children can make contact as soon as possible. Additionally, deciding on one social network to use would help stream-line the exchange.

Plastic Container for used pens and collage of inspiring plastic-reuse projects:

-

Measuring success. The



success of this project will most likely be visible in the next exchange, where “lessons learned” will be more valuable. The students are certainly paying more attention to single-use plastics and making an effort to keep up to date on alternative products available. Children have, as the video outlines, looked for places where single-use plastics have been used and an alternative would have been better. For example, our kids chose to create games for their Earth Day carnival that avoided new single-use packaging, and included a game about the oceans in their booth plans.

Green Cup Challenge - Recycling Challenge

IMPLEMENTATION:

Why? During the past few years, while our team has tackled issues like eWaste collection, plastics, forest resources, and energy use, we have assumed that our “waste stream” was operating well where city recycling was concerned. As we hope to approach waste by emphasizing reuse and reduction, we did not concentrate on the recycling part of waste reduction specifically.

However, while looking at our food wastes, we noticed that the composting program would not be reliable if the students, teachers, and parents were not clear about what waste is made of how it is recycled. As a result, we decided to enter the Green Schools Alliance “Green Cup Challenge” as a way to “get back in shape” with recycling.

Kids, teachers, and parents have noticed that not all of our bins are in compliance. As a result, we have had a lot problems with community members not “trusting” that recycling really happens. Based on our questions, we learned that there are many factors;

- The belief that because bins are often out of compliance, that recycling isn’t a priority

- The belief that city recycling is not really happening because it uses a shared bin (the blue bin) for both paper and bottles/cans.

- A lack of understanding about what “goes” where

- Frustration with the fact that not all items made of plastic, paper or metal are recyclable in the same place.

What did you do? An initial survey of the 68 waste bins and 11 compost bins in our school revealed an ugly truth - only 36% of the bins contained ONLY the right materials! We had a job cut out for us. These challenges lead the children on our Green Team to think about the signs we now use for recycling. They felt that if we included more “real” items, we would find that people are more comfortable recycling.

The children spent the first week of the challenge distributing new signs and making sure that teachers knew what items were meant to be recycled where. The following week, we were up to 77%! For the next three weeks, we reminded classrooms to review the recycling rules, we answered questions about materials that were and were not recyclable, and we created new signs for classrooms that need additional clarification. We maintained a rate in the upper 70s for the whole month of April, and the students enjoyed auditing their homerooms to see how their signs were working. We also

learned that waste is being placed in the wrong bins because some spaces lacked adequate recycling receptacles. Requests for new bins were sent to the maintenance crew, and are being delivered.

- **Project planning.** We created audit sheets for students, and went over the proper recycling requirements, and taught the children about typical city compliance. We also discussed the typical contents of municipal wastes, and the importance of recycling in general. From there, the students in the Green Team were able to promote the challenge to homerooms.
- **Student involvement.** This project was carried out by our Green Team students during the month of April.
- **Promotion.** Attached here is an example of the type of sign we provided for homeroom classes.

PROJECT ANALYSIS:

- **What worked?** We were excited to see that we could improve compliance by such a large percentage in one week. Reminders about recycling, and education about what can be placed where, using real examples of trash we typically handle, helped a lot. Students and teachers emphasized that they needed the signs to be as easy and clear as possible, because decision-making at the trash bin is fast process!
- **What didn't work?** We were not successful in making the bins in the front lobby of the school more compliant. We would love to work on that for future recycling and waste reduction projects.
- **Applicability to other schools.** This is a program available to both public and private schools around the country.
- **Measuring success.** Our increase in "correct" recycling bins was the best measure of our success.

HOW TO RECYCLE AT GRACE



REUSABLES: Choose washable and reusable items first! Bring a drink container, or use the class bins for parties and events. Class bin items can be washed in the GCS Kitchen



COMPOSTABLES: Vegetable Scraps, compostable paper cups and plates. Place Food UNDER Newspaper in Worm Bin, OR, Bring Compost to the Kitchen at Lunch



CITY RECYCLING: All non-soiled paper and cardboard, plastic bottles with a neck (#1 & #2) and aluminum and other metals



ALTERNATIVE RECYCLING: Bring bottle caps, small electronics, CDs, old pens, chargers, and re-chargeable batteries to the South Hall



THROW IT OUT: Plastic bags, snack wrappers, plastic that is not #1 or #2, soiled paper, used tissues, etc.





EARTH DAY CARNIVAL: APRIL 19, 2012

IMPLEMENTATION:

Why? During this school year, we asked our Student Council how they could create more sustainable events. The Student Council hosts dress-down days, bake sales, and carnivals to raise money for worthy causes. (For full list of community service events, as well as our sustainability related events in the past, see this site: <https://sites.google.com/a/gcschool.org/growgcs/>) We asked the students to consider a reduced-waste approach, and offered a collaboration with the Green Gremlins. Their idea was to create an Earth Day Carnival that focused on recycling, reusing, and reducing waste.

What did you do?

The students developed ideas on their own, worked in small teams, and prepared for the carnival. The follow chart outlines their efforts:

Booth or Decor	Plan
Movie for Music Room while kids are waiting	Children waiting for their turn at the festival watched the film "TOO HOT NOT TO HANDLE" about climate change and alternative energy
Sustainable Decorations	Students made recycled cardboard posters, bottle cap signs, and decorated with recyclable paper raffia.
Environmental Picture Projections	A student collected images from the internet of environmental scenes, city recycling, and of kids in our greenhouse. These were projected against the wall for the carnival
DJ & Message to Rio Team	Students could pay for a song request from our Carnival DJ. Also, a student interviewed others and asked about what they would like to say to the Rio 20+ Sustainable Development Conference. They were offered a free ticket for their interview. This will be edited to create a podcast that should be published in the beginning of May. Go to www.greengremlins.org for more info!
Speed Recycling	Students were challenged to pitch items into three bins through a low basketball hoop - city recycling, waste, and compost.
Scavenger Hunt: Environmental Maze (dead ends being non-green choices, prizes at end of maze - made up safety cones)	Students were given clues to a scavenger hunt that included facts about environmental protections. Prizes included soy-ink based iron ons for T-shirts and Bags that said "GREEN IS THE NEW BLACK" and "SAVE THE EARTH - ITS THE ONLY PLANET WITH CHOCOLATE"
Build a circuit with LED lights or solar kit	Students were challenged to build an LED circuit for a light and a for a small windmill
Recycled paper cranes	Recycled paper was collected and students were taught to make origami cranes
Green Bake Sale - See Allergy List	Goods were sold during the carnival by 8th graders
Pitching Contest	Kids were asked to sort waste items and pitch them into a small board
Planting - (in eggshells or recycled milk containers)	Kids could see real compost, plant organic seeds in recycled containers, and get a compost snack! Gummy worms in crushed oreos
Recycled Jewellery and Duct Tape Wallet Station	Recycled tape rolls, old broken jewelry and hole-punched coins were used to make new jewelry
Guess how many gummi fish and penny drop in a tank	At our "Ocean Games" table, students tried to drop a coin in a cup that was underwater in a tank while they learned about city water, ocean clean-up, and how to conserve ocean resources. They were also asked to guess the number of gummi fish in a tank
Guess how many bottle caps (From the Aveda Program)	Students were asked to guess the number of bottle caps in our Aveda bottle cap recycling bin - winners got Iron-On Transfers and other prizes

Student involvement. Each student was assigned to a job, and given deadlines, and advised about whom they needed to talk to and what materials they needed to get. They did a beautiful job getting ready, and arrived early in the morning to set up the carnival.

Promotion. Announcements were made at lunch prior to the carnival, and homerooms were alerted to the event.

Collaboration. While we did not collaborate with organizations this year, we did reach out to see if any were available, such as Solar One and the Lower East Side Ecology Center. This year we did not have any collaborators.

Educational components. See appendix

PROJECT ANALYSIS:

What worked? It was a fun, and meaningful morning. The students succeeded in raising awareness and engaging their peers in a sustainable, waste-reduced event.

What didn't work? What were the least successful aspects of this project? Due to the fact that we have a very strict "no-nuts-and-allergens" policy, we did not get a great selection of baked goods for our food sale. We hoped to have organic and local foods for sale that would appeal to the children, but options were limited, and the students were not able to focus on alternatives before the carnival.

Applicability to other schools. Yes. Particularly the collaboration between the student council and the green team.

Measuring success. The students raised \$**304** dollars that they will be donating to an organization that promotes sustainable development.

Documentation: Pictures of Booths and Fact Sheets at Tables



5 FACTS: PAPER RECYCLING

For recycled paper origami booth and recycled jewelry making booth

1. A ton of paper recycled can help save 24 trees, 380 gallons of oil and 7,000 gallons of water.
2. Manufacturing paper and cardboard products from recycled material not only conserves trees, it also uses up to 50% less energy and 90% less water than making them from raw materials.
3. For every 100 reams of recycled office paper that is printed doubled sided, the savings are estimated at two trees, more than one tonne of greenhouse gases and almost a cubic metre of landfill space, compared with using 100 reams of non-recycled paper or printing single-sided
4. When paper breaks down in landfill it creates methane, a major greenhouse gas with the global warming capacity 21 times more powerful than carbon

- dioxide.
5. By Recycling 1 ton of paper you save:
- 17 trees
 - 6953 gallons of water
 - 463 gallons of oil
 - 587 pounds of air pollution
 - 3.06 cubic yards of landfill space



5 FACTS: OCEANS

For Ocean Game Booth - Win a "Drip Patrol" Badge

1. Every year over 6 million tonnes of rubbish is dumped into the world's oceans, 80% of which is plastic, and a further 10% of this being plastic bags
2. With an estimated 46,000 pieces for every square mile of ocean, plastic is responsible for killing 1 million sea birds and over 100,000 sea mammals each year
3. It is estimated that it costs governments, businesses and community groups

- over \$4 million per annum to clean up littered plastic shopping bags
4. When trash is not recycled or properly thrown away on land, it can become marine debris. For example, trash in the streets can wash into sewers, storm drains, or inland rivers and streams when it rains and can be carried to oceans and coastal waters.
 5. Marine animals can swallow marine debris causing suffocation or starvation. Sea birds have been known to swallow small plastic pieces (which look like fish eggs); and sea turtles have been known to swallow clear plastic bags (which look like jellyfish).



5 FACTS: COMPOSTING

For gummy worms in crushed oreos booth! Observe real compost worms.

1. Food that is not composted releases methane gas when it is rotting – a much more powerful greenhouse gas than CO₂
2. 14% of all waste dumped in the US is food waste that could have been

- composted – second only to paper in its volume of waste
3. Compost has the ability to help regenerate poor soils.
 4. Compost has also been shown to suppress plant diseases and pests, reduce or eliminate the need for chemical fertilizers, and promote higher yields of agricultural crops.
 5. Compost has the ability to prevent pollutants in stormwater runoff from reaching surface water resources.



5 FACTS: CITY RECYCLING

For Speed Recycling Booth

1. NYC produces 12,000 tons of waste PER DAY
2. NYC's non-recyclable waste is sent to landfills in states like Pennsylvania, Ohio and Virginia. Much of Manhattan's waste is incinerated across the Hudson River, in New Jersey.
3. 80% of US products are used once and then thrown away.
4. New York City residents currently recycle only about 17% of their total waste--half of what they could be recycling under the current program.
5. 7.5% of our waste stream consists of plastic film such as supermarket bags.

5 FACTS: GREEN SPACES

For Planting Booth - Plant organic sunflowers in recycled containers

1. Founded by Liz Christy in 1975, GrowNYC's Open Space Greening program builds and sustains community gardens, school gardens, and rainwater harvesting systems across New York City.
2. Greenspaces can include rooftops, empty lots, corner gardens, and neighborhood parks
3. Over 60 [community gardens](#) have been rejuvenated since 1975, and GrowNYC works with schools, public housing associations, and neighborhood groups to transform vacant land into vibrant civic spaces.
4. The High Line is inherently a green structure. It re-purposes of a piece of industrial infrastructure as public green space.
5. The High Line landscape functions essentially like a green roof; porous pathways contain open joints, so water can drain between planks and water adjacent planting beds, cutting down on the amount of storm-water than runs off the site into the sewer system.

5 FACTS: ENERGY SAVING LIGHT BULBS

For Circuit Booth - Race to Build a Circuit for an LED and mini Wind Mill

1. 65% of global warming pollution is estimated to come from energy generation and use.¹
2. \$25 billion paid by consumers every year for electricity estimated to be lost to inefficient transmission and distribution.²
3. \$150 billion lost every year to power outages and blackouts in the U.S.³
4. LED stands for Light Emitting Diode. LEDs are 100% recyclable. Unlike fluorescent counterparts

5. White and soft white LEDs produce a full-spectrum light closely resembling daylight, illuminating tasks and enhancing work, school, and retail environments.

Reducing Waste at Events: Costume Swap, Parent Night Composting and Re-usables, International Family Night (Korea), Auction Recycling, and the MayFair

IMPLEMENTATION

- Why this?** Every year our school engages in a ton of activities and events. We try to bring a sustainability focus to as many as possible. For example, each year we present the following slide show to event chairs and Parents Association officers: https://docs.google.com/presentation/view?id=df77vpz6_11grgw2xg4. The following outlines our new successes in this area.
- What did you do?** This year the following events were given a “reduce waste” review. Starred events were new efforts in the 2011-2012 school year.

Event	Waste Reduction Acheived
* Nail Polish Swap	Teachers noticed that they had a lot of ‘extra’ nail polish, and placed a swap bin in the faculty room. This reduced toxic waste.
5th Animal Costume Swap	This yearly event has become an “institution” at GCS. Plastic waste and single-use items are eliminated for those who choose to swap!
Parent Night Re-Usable Items	A large collection of re-usable IKEA cups and plates are available to each class for parent nights, class parties, and evening events. Compostable plates and coffee cups are used regularly.
** International Family Night	For International Family Night this year, the focus was on Korea. Students made 20 recycled Korean flags out of materials in our school - old floppy disks, cloth, old paper, packaging materials, etc. The group also collected used crayons and markers for the children to use on the night of the event, and the parents used re-usable items for drinks and composted food (a first for this event!)

**Auction	The Green Team prepared auction catalogues to recycled. We stopped printing 50% of the copies and moved the catalogue online.
**May Fair	The May Fair chairs started a planting and compost station at the May Fair in 2011, and increased the signage for recycling, improving the waste stream a great deal. 2012's May Fair will also host the new "Spring" booths, and will have its annual re-usable sale of clothing, toys, and books on 5/5. This year and last, the parents have contacted the Sustainability Task Force so that we can be involved in planning early on.
Community Service Day	GCS Families continue to meet bi-annually to help on the East River Park clean-up day with the collaboration of the Lower East Side Ecology Center.

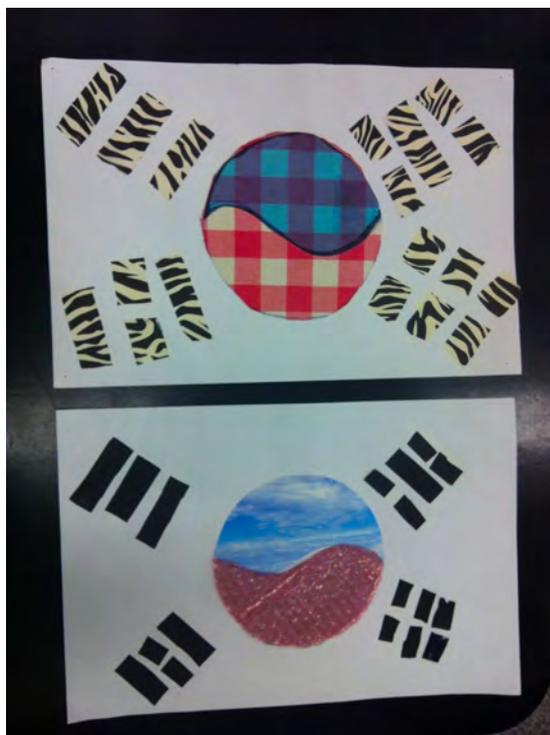
- **Project planning.** Planning involves talking to the parents, teachers, staff and administrators involved in each event, and asking the to come up with a list of ways that they think they can make their event "greener" and more waste-free.
- **Student involvement.** For every event that the students attend, they are involved in reducing waste. For example, during this year's "Korea Night" the students used many recycled items (old floppy disks, bags from stores, packaging of candy and mail) to create recycled Korean flags for the event. (Pictured below)
- **Promotion.** Each event has it's own promotional program.
- **Collaboration.** We often use the resources of the Grow NYC program, of the Lower East Side Ecology Center, and other non-profit groups, to help develop new ways to recycled and re-use materials.
- **Educational components.** See appendix.

PROJECT ANALYSIS:

- **What worked?** Being able to present our waste reduction and re-use slide show to the event chairs two years in a row has allowed us to increase the number of sustainable choices organizers make. We have

seen some innovations, and each new event that adds a sustainability component makes this a new “regular” tradition in an all-school event.

- **What didn't work?** We hope to get even more parent participation in the re-use and waste reduction conversation. Right now there are still several events that create a high amount of disposable, single-use waste. While we have re-usable cups and plates, not all parents and faculty choose to use them for events, thinking that the clear, disposable options are more elegant. We hope to begin sourcing new cups and plates that are compostable when we start our contract with the Green Restaurant Association, which has the largest number of sustainable product vendors in the US. We would also like to learn more about how other schools incorporate sustainability in their events.
- **Applicability to other schools.** Yes, these choices are options for other school communities.
- **Measuring success.** When new event chairs seek out the Sustainability Task Force, or the members of the Green Team, we have succeeded!



Recycled Flags of Korea!
Link to Costume Swap 2011:

http://greengremlins.files.wordpress.com/2011/10/img_1512.jpg



Bi-Annual Community Service Day with the Lower East Side Ecology Center



**NEW ANNUAL TRADITION:
EARTH DINNERS
NOVEMBER 4, 2010
APRIL 17, 2012**



IMPLEMENTATION:

- **Why this?** While focusing on food in 2010-2011, we realized that getting involved in the Earth Dinner program could help parents, teachers, and students share ideas while having fun and trying out sustainable choices for food. The organization hosts instructions for a hosting your own Earth Dinner: <http://earthdinner.org/>. After our first dinner success, we decided to make this dinner an annual tradition.
- **What did you do?** Hosted an Earth Dinner.

- **Project planning.** In planning this meal, we created an email list and an invitation for all community members. In the second year, we created a Google Form for participants to fill out their contributions to the pot luck meal. The Green Team helped develop some of the ideas for the night - such as the table decorations (at the first event the upcycled plastic bags and designed placemats with them). The Food Committee additionally brought more parents and more food ideas to the event.

<https://docs.google.com/a/gcschool.org/spreadsheet/viewform?formkey=dDVoz01XcTNzUHZnQU1TdUhNMHFwb0E6MQ#gid=0>

Parents were asked to contribute foods that were local, organic, or both. Participants brought in sustainable, re-usable, and decorative tableware. The full complement of waste reduction strategies was in use - composting, re-usable dinnerware, washable table cloths, etc. Additionally, both dinners had a "garden table" brought from the greenhouse. In the second dinner, we had plantable marigolds that were potted in old baby food jars. There was a slide show featuring the greenhouse program and our school trips to the Union Square Greenmarket, and to the local farms and green-roof farms.

Each table had a set of questions wrapped in small raffia bows for the diners to share while they ate. Included in the bowls of questions and quotes were random prize tickets for participants, including CFL lightbulbs and organic chocolate bars.

- **Student involvement.** Families were invited to join us for the second dinner, but for the first Earth Dinner, we only invited adults. Kids helped set the tables, and helped write some of the questions for the tables.
- **Promotion.** Via our blog, and our usual communication channels, as well as a facebook group hosted by Organic Valley, we promoted the event.
- **Educational components.** Student helped create some of the questions we used at the dinner, and the act of discussing the big food "circle of life" helped them see connections between food we eat and the ecosystems, food webs, and natural resources we study in class.

PROJECT ANALYSIS:

- **What worked?** Our Earth Dinner was a delicious and heart-warming night including chocolate prizes, delicious kale soup, quinoa salad, and much more. Thanks to the generous donations of community members, we had a lovely meal, full of conversation.
- **What didn't work?** In future years we would like to involve many more families, and “get the word out” about the event. We would also like to include even more connections to educational opportunities.
- **Applicability to other schools.** Yes, other schools to could host these events.
- **Measuring success.** The number of thank you notes, and positive feedback we got from both events was incredible. We are so glad that a casual, pot-luck dinner brought out the best in our community, and that the event was so warm and inspired so much discussion about how we interact with food and food systems.

Documentation:

Please see these posts.

<http://greengremlins.wordpress.com/?s=earth+dinner>

Also, our list of questions for the tables are here;

“Until 1940, most produce was organic and, until the advent of the refrigerated boxcar, it was also of necessity fresh, seasonal and local. There’s nothing radical about organic produce: It’s a return to traditional values of the most fundamental kind. Alice Waters, *The Farm-Restaurant Connection*

Does your family have a special recipe that has been passed down from generation to generation? If so, what is it and where did it come from? Consider posting the recipe and story as a note and sharing it with your friends this week.

What is your earliest food memory?

“We talk these days of “eating local”—or maybe we should call it “local-ish.” Share what local means to you. Why do you think our food system has shifted away from a regional model?”

“Tell a story about a time you spent cooking together with your child(ren). Was it a cookie disaster or delight? If you don’t have kids, share a memory of a time when your family involved you in the kitchen as a child.”

Let’s say you’ve had a week of TV, Take-out, and work that drove you around the bend. How do you

reconnect to sustainability, your family, and your environment when the opportunity arises?

Smell is so linked to taste, and yet it's a sense we don't often pay attention to. Close your eyes and describe the scents in the room right now. Does your nose tickle? Can you pick out certain spices in the air? Next, describe in detail a smell that always makes you think of a certain time or place in your life

Does your family have a special recipe that has been passed down from generation to generation? If so, what is it and where did it come from? Consider posting the recipe and story as a note and sharing it with your friends this week.

Does your family have a special recipe that has been passed down from generation to generation? If so, what is it and where did it come from?

"We talk these days of "eating local"—or maybe we should call it "local-ish." Share what local means to you. Why do you think our food system has shifted away from a regional model?"

"After a good dinner, one can forgive anybody, even one's relatives." – Oscar Wilde. Tell a story about a memorable family food gathering. What made it memorable?

Tell a story about a time you spent cooking together with your child(ren). Was it a cookie disaster or delight? If you don't have kids, share a memory of a time when your family involved you in the kitchen as a child. James Beard once said, "Good simple food, even rudimentary food, can give the same delights as the most elaborately prepared dishes." Describe a simple meal or food you remember eating that gave you a deep sense of well-being.

"It's bizarre that the produce manager is more important to my children's health than the pediatrician." -- Meryl Streep

The average grocery food travels 1,500 miles to the store. If your grocery store labeled every food item in the store with its place of origin, how would you think differently about what you buy?

John Muir said, "I only went out for a walk and finally concluded to stay out till sundown, for going out, I found, was really going in." How do you connect with nature? Do you have a special place you like to go?

What "signature" food dish do friends count on you to bring to social gatherings? What is the story behind it?

Do you and a sibling share a special food habit or story? Always have pop-overs when you meet for breakfast, remember sneaking the peanut butter jar into your room?

A Chinese proverb says, "He that takes medicine and neglects diet, wastes the skills of the physician," and John Redman Coxe once said in 1800, "The longer I live the less confidence I have in drugs and the greater is my confidence in the regulation and administration of diet and regimen."

"It's bizarre that the produce manager is more important to my children's health than the pediatrician." -- Meryl Streep

"Earth Day worked because of the spontaneous response at the grassroots level. We had neither the time nor resources to organize 20 million demonstrators and the thousands of schools and local communities that participated. That was the remarkable thing about Earth Day. It organized itself. It was a gamble, but it worked." Senator Gaylord Nelson, Founder of Earth Day

John Muir said, "I only went out for a walk and finally concluded to stay out till sundown, for going out, I

found, was really going in." How do you connect with nature? Do you have a special place you like to go?

"A future agriculture will require that we learn as much as possible about what we undid." Wes Jackson, The Land Institute

Americans now spend a smaller percentage of their income on food than ever before—less than 10% of their disposable income. What are the benefits and drawbacks of having cheap food available? Would you be willing to pay more for food that was grown or raised in more healthy ways for people and/or for the environment? Why or why not?

Over the past three decades, consumption of high fructose corn syrup has increased 1,000%.

Name three food species indigenous to NY State

What role does the family farm play in America's perception of itself? What does it mean for the U.S. that the family farm is giving way to industrial or factory farming? What could reverse that trend?

Corn is a pervasive source of material for food, manufacturing and fuel. Did you know that the average

Each man, woman and child in America eats an average of 46 slices (23 pounds) of pizza a year. Pepperoni is America's favorite topping (36 percent of all pizza orders we eat approximately 251,770,000 pounds a year!

Americans now spend a smaller percentage of their income on food than ever before—less than 10% of their disposable income. What are the benefits and drawbacks of having cheap food available? Would you be willing to pay more for food that was grown or raised in more healthy ways for people and/or for the environment? Why or why not?

What is the "American" attitude towards food? How do people in other countries perceive our relationship with food?

Do you know the scientific names of any of the foods you eat?

When you see trash on the street, what is it usually made of? (answer: food packaging)

What is your favorite stand at the Green Market in Union Square?

America's first large pasta factory was built in Brooklyn, New York in 1848 by a Frenchman who would spread out his spaghetti strands on the roof to dry in the sunshine.

"Eating is an environmental act."

— Alice Waters.

"For a successful technology, reality must take precedence over public relations, for Nature cannot be fooled."

— Richard Feynman, US educator and physicist

"The correlation between poverty and obesity can be traced to agricultural policies and subsidies."

— Michael Pollan, author of The Omnivore's Dilemma

My soul can find no staircase to heaven unless it be through earth's loveliness

If I keep a green bough in my heart, the singing bird will come.

Bananas: Although generally regarded as a tree, this large tropical plant is really an herb. That

means it does not have a woody trunk like a tree. The stalk is composed of leaf sheaths that overlap each other and grow from an underground stem called a rhizome

What are these foods?

Easy: *Daucus carota*

Medium: *Solanum melongena*

Hard: *Sus domesticus*

Look at one of the foods on your plate. Describe how you think it got there. What do you know, what would you like to know?

HOW MANY DIFFERENT VARIETIES OF APPLE ARE THERE?

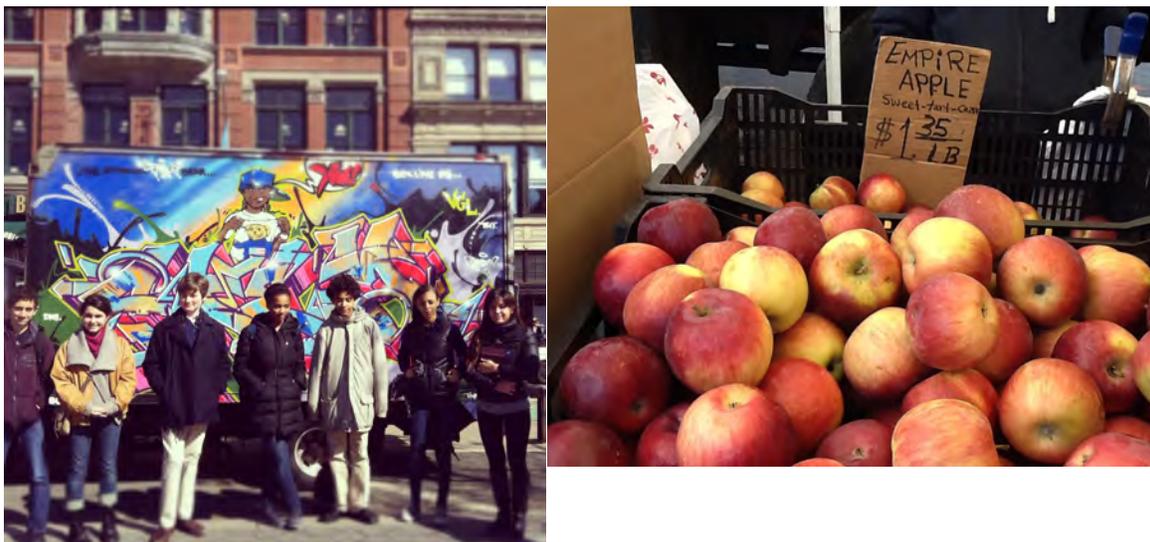
(7,500 cultivars)

While the first breakfast cereal was made by adding sugar and milk to popped popcorn, a shortage of baking flours after World War II forced breadmakers to substitute up to 25% of wheat flour with ground popped popcorn. Over the years, popcorn also has been used as an ingredient in pudding, candy, soup, salad and entrees.

Americans eat about 30 pounds of lettuce every year. That's about five times more than what we ate in the early 1900s.

In the U.S. in 1998, hens produced 6,657,000,000 dozen eggs - that's 6.657 billion dozen! After these eggs were laid, about two-thirds were sold in the shell and one third of them were broken - not by accident, but on purpose. Because after the eggs are broken out of their shells, they can be made into liquid, frozen, dried and specialty egg products.

HIGH SCHOOL DIVISION RE-VISIT DAYS



IMPLEMENTATION:

- Why this?** As we plan to open our High School division in September of 2012, the High School team has been working on integrating a deep sustainability mission into the everyday life of the school. Every High School student will be required to be involved in cooking, composting, and dealing with wastes. All students will also be required to take a course entitled "City and Sustainability" for a 16-week period where they study how sustainability is achieved in the Cooper Square neighborhood. They will be working on this program for 90 minutes every week, and will be designing their own programs after meeting members of other organizations and learning about how NYC's mission to be a sustainable city is being achieved. For example, for now we have plans for the Lower East Side Ecology Center, the Human Impacts Institute, and the River Project to meet with the students. The "City and Sustainability" class will be a part of our community lab day.

Because we had new students applying to the high school, and they often "re-visit" schools they've applied to, we created an activity for students to try out as a "preview" of our city and sustainability class.

- What did you do?** Student on this revisit day explored how we

consume apples. Began by having a short conversation about the apples they love, and where they usually get them. Next, the group was broken up into 2 groups of 8 students each. They visited the following locations to find out about the apples, their presentation, their packaging, and their price

Brother's Deli on 4th and 12th
 Red Jacket Orchards
 2 Other Green Market Stalls
 Walgreens
 (with additional time, students were asked to visit Whole Foods and the Food Emporium, but they did not have time to complete this part of the visit.)

After the activity, students compared notes about their observations. They learned that while the perception is that the Green Market apples would be more expensive, they were not. Also, the apples at Walgreens were shiny and displayed well, but only had 2 varieties. The Green Market has over 15 varieties, and while they were not as "perfect," they were waste-free and delicious.

- **Project planning.** We worked hard to plan an exciting day that would replicate the ideals of the high school program. We did investigations about what the kids could observe in Union Square, and focused on questions the students could answer after doing an "on the ground" investigation.
- **Student involvement.** The High School visitors carried out the activity for 1 hr.
- **Collaboration.** One farmer, and the host at the LESEC compost station, talked to students about how the people of Union Square interact with food.

PROJECT ANALYSIS:

- **What worked?** We were excited about how many vendors were willing to talk to students, and as we walked around the neighborhood, we saw a lot of variety in the ways apples are sold and consumed. The kids were able to connect to their consumer choices and how they relate to environmental choices in a "real world" investigation.

- **What didn't work?** In the future we would like to include other consumables, and a deeper consideration of packaging.
- **Applicability to other schools.** Yes, but the Union Square neighborhood has a uniquely
- range of food vendors, so this activity is particularly great for schools in our neighborhood.
- **Measuring success.** The children were engaged in the project, and had great feedback for us. Additionally, many decided to choose GCS for their High School!

Link to a rough draft of our video about our fall study of plastic waste: <http://youtu.be/Vuol9bt3qwo>

Links to Children's Endangered Species Power Point Presentations;

https://docs.google.com/presentation/d/12OkWo1rZpwLw4fVXzqnhUKNM0UX3j_PKX4H6mF90A1s/edit

https://docs.google.com/presentation/d/1rk1Y9tT_-c2icnN_-8mVOxOAgZJ0-MIO4TRpDtVzZg/edit

<https://docs.google.com/document/d/1DRQqXKbujrle0hUBanQOOH1PqoqtBEIVnwggx8nbk0g/edit>

<https://docs.google.com/presentation/d/1YBTH1XRFyDVyWADjWG41Vt82SsHYcPZT4cMtbhzE20s/edit>

LINK TO FOOD PANEL GUESTS AND DISCUSSION:

<http://greengremlins.wordpress.com/2011/03/26/food-is-our-common-ground/>



SCHOOL SPIRIT - GO GREEN - SEPTEMBER 2011

Brief Assessment of Learning Standards for Mathematics, Science, and Technology for New York State;

1. Standard 1: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
Students involved in the Green Cup Challenge used auditing and percentages to determine the effectiveness of our waste reduction and recycling program.
2. Standard 2: Students will access, generate, process, and transfer information using appropriate technologies.
Students worked on creating blog posts, posters, and announcements to communicate their goals related to sustainable school practices.
3. Standard 4: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
Students in our lower school science and middle school science programs study the relationships between biology, geology, genetics, evolution, zoology and botany and the human use of natural resources. This is part of the curriculum in every grade.
4. Standard 5: Students will apply technological knowledge and skills to design, construct, use, and evaluate products and systems to satisfy human and environmental needs. Standard 6: Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning. Standard 7: Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.
 - a. *During lab classes, our science fair, and other projects the kids create and carry out, students opt to explore renewable technologies, plant growth, energy efficiency, and other sustainable living topics. They use blogs, wikis, videos, photography, google docs, and other technology to express the results of their work.*