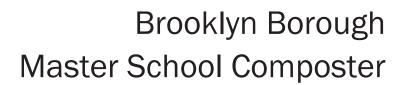
NYC Compost Project GOLDEN SHOVEL





PS 32 Samuel Sprole Mills

2013 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 compost more and waste less.









2013 Golden Apple Awards Contest Entry Judging Info

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



ID Info: 13012

School: PS 32 Samuel Sprole Mills School

Grade Division LM Borough: K

Golden Shovel Award contestant (for borough Master School Composter)

2013 Project Entries received for:

TrashMasters! Super Recyclers

Received:

hMasters! Reduce & Reuse Challenge	
	Received:

Build Communication, Relationships, Curricular Development Received: 5/1/2013

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The school's Garden Committee concentrated on ways to increase communication and build relationships with the teachers so that the garden could support their curricular development. By meeting with the teachers, researching curriculum, indentifying and paying for specific Professional Developments, and engaging the students and their families in garden-related activities such as a Garden Day and a separate Build Day, participation and enthusiasm for the garden project was boosted throughout the entire school community, and new connections were formed.

Prior Year Entries:

13:TU-part, GS-K

Current Prizes
13:TU-part, GS-K

Principal:

School Contact Information:

Phone: 718-330-9295 Contest Coordinator: Andrew Powers

Address: 317 Hoyt St

Brooklyn 11231

Block&Lot: 3004370001

DOE Location: K032 DOE Bldg: K032

Sustainability Coord: Francine Cuomo

REQUIRED for Super Recyclers only:

Custodian: LAWRENCE ROMANI

Info Confirmed: 5/15/2013

Printed: 6/26/2013

Deborah Florio

Cover Page

School Info

School Number: PS32

Official School Name: Samuel Mills Sprole School

Address: 317 Hoyt St Brooklyn NY 11231 **Phone**: 718-330-9295 **Fax**: 718-797-4362

Principal: Deborah Florio, 718-330-9295, dflorio@schools.nyc.gov **Contest Coordinator**: Andrew Powers, Social Studies Teacher/Garden

Coordinator, 718-330-9295, apowers2@schools.nyc.gov

School Description

PS32 is Title 1 School that serves an extremely diverse student and parent body from many different parts of our district. 70% of our students qualify for reduced or free lunch, and through our programs devoted to high-functioning children with autism and our Gifted and Talented Program, we also serve families of varied income levels from neighborhoods such as Boerum Hill, Carroll Gardens, Park Slope, and Sunset Park. 42.5% of our students have special needs.¹

The school has thriving Garden and Nutrition Committees, both of which are comprised of parents, staff, and students, and both of which are committed to producing and sustaining an ambitious garden to serve as a center of student activity and curricular development. Our purpose is to enrich our current curriculum while emphasizing hands-on inquiry, as well as exposure to the process and importance of the life cycle of plants and the nutrition that comes from fresh produce.

Last year, our Wellness Committee began to work with School Food and the Administration to remove chocolate milk, provide fresh water in the cafeteria through a water jet system, apply for a salad bar and bring awareness to healthy choices for snacks We became a Garden-to-Café school and this year we were able

DC 22 is the zone

¹ PS 32 is the zone school for 348 students from Carroll Gardens/Gowanus and students from District 15 enrolled in the ASD Nest program for high-functioning children with autism as well as a Gifted and Talented program. PS 32 has an extremely diverse student population. Seventy percent of students qualify for free lunch; 11% are English Language Learners; 42% receive Special Education services; and the ethnicity of students is 43% Latino, 29% Black, 24% White and 5% Asian. General education students come disproportionately from census tract 71, where 34% of households receive Food Stamps and 27% of families live below the Federal poverty level. This year 103 of our students have IEPs.

to bring Cookshop to our younger grades With all of these efforts to bring awareness of Nutrition into our school, it is exciting for our students to be able to grow some of their own healthy food.

Since 2011, the Garden Committee has created 8 sub-irrigated beds for edibles, 5 smaller sub-irrigated beds for a sensory garden, 2 beds for annuals, a bed for native species, a three barrel composting system and a rainwater harvest system. We have been able to grow green peppers, celery, broccoli, cauliflower, tomatoes, eggplant, beans, lettuce, kale, spinach, parsley and basil, marigolds, flower bulbs, herbs, succulents, sunflowers and more. Along with the spiraling curriculum from preK-5, we have had Garden Lunch Clubs attended by over 30 students in various grades that focus on student driven Garden projects.

Contest Entry Info

Borough: Brooklyn

Grade Division: Elementary

Contest Title Entry: Build Communication, Relationships, Curricular Development

Contest Entry Summary:

This year we concentrated on ways in which the Garden Committee could increase communication and build relationships with the teachers to that we could support their curricular development in the garden and we believe we have succeeded. By meeting with the teachers, researching curriculum, indentifying and paying for specific Professional Developments and engaging the students and their families in garden related activities, such as a Garden Day and a separate Build Day, we have boosted participation and enthusiasm for our garden project throughout our entire community. We have also tried to broaden our connections in the community be forming new partnerships and strengthening old ones

Student Involvement

Student Participation: Core Group # 20 Student Participation: Total # 348 School Population: Total # 348

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Contest Entry Summary:

One and a half years into a successfully expanding school garden, the Garden Committee realized that we needed switch the focus from physical expansion to increasing teacher interest and support. We had a history of each class engaging with the garden, but lack of communication with and direction for the teachers resulted in less than optimal harvests and missed opportunities to utilize our garden resources to emphasize already mandated curriculum. We brainstormed ways in which the Garden Committee could increase communication and build relationships with the teachers so that we could support their curricular development in the garden. We feel we are well on our way to succeeding in these goals. By meeting with the teachers, researching curriculum, indentifying and paying for specific Professional Developments and engaging the students and their families in garden related activities, such as a Garden Day and a separate Build Day, we have boosted participation and enthusiasm for our garden project throughout our entire community. We have also tried to broaden our connections in the community by forming new partnerships and strengthening old ones. We have already sent 7 or our teachers for specialized Professional Development in addition to having an in house seed starting demonstration for all of them. Every one of our classes has established a plan for engaging with the garden: from starting seeds to harvesting produce; learning about irrigation and soil, investigating insects, weather, plant adaptation and more.

Why This Project?

We began our Garden in 2011 for many reasons: enhancing NY State curriculums in Science and Social Studies, raising awareness and exposure to good nutrition and the role of fresh produce in a good diet, and as a context for sustaining a thoughtful and engaging environmental education. We are a Title 1 elementary school, and many of our students do not regularly have fresh produce at meals, so we have used the garden to emphasize lessons about fresh, nutritious, locally grown edibles as part of a many-pronged strategy to highlight healthy food choices. We have also been using our garden to present important lessons about the environment, with a special emphasis on the importance of water conservation. With a goal of minimal water use/waste and maximum productivity, the majority of garden beds have been prepared with sub-irrigation systems. Thanks to a Lowe's grant, we were able to install two 300 gallon rainwater harvest barrels to capture water that will not only reduce runoff into the nearby Gowanus Canal, but will also be the primary water source for our garden. Our kids, from pre-k on, are engaged with all of the technical and environmental elements of our gardens. To this end, we chose this project to enhance the science and social studies curriculum through an inquiry-based learning environment.

What have we done so far?

In October of 2012 we hosted our first Garden Day to expose our community to the harvest. We had 80+ parents, staff, and community volunteers involved in an event that was completely open to the public, which provided several opportunities for education and fun. Garden Related activities involved: worms, plantings, a bicycle mulcher . Supplies picked up from Materials for the Arts were used to carry out several garden related art projects. Brooklyn Food Coalition, Gowanus Canal Conservancy, and Cook Smart all presented learning opportunities to attendees. A pumpkin patch and apples from a local orchard rounded out the garden theme. Our day was attended by several community politicians, including Brad Lander, Steve Levin and Marty Markowitz, who have shown continued support of our efforts.

The Garden Committee has attended at least two curriculum meetings with each teacher to understand and broaden their curriculums' potential tie-ins to the garden. As a result of those meetings, the Garden Committee has been able to research and provide appropriate content and has responded to the staff's desire to extend the growing season and bring it into the classroom. Another outcome from the meetings with the teachers was to map out a yearlong study for each grade that is related to the garden (i.e. plant adaptation, nutrition, irrigation, water). With funds from Lowes Toolbox for Education and a Grow to Learn grant we were able to purchase grow lights and seed starting classes for 16 classrooms, supporting the mandated curriculum via garden education. We believe with these supports that by 5th grade each child will have a well-rounded garden experience.

All teachers were able to attend an on-site Professional Development led by a school Garden Coordinator from Brooklyn New School on how to use their seed starting equipment in the classroom. We had several teachers express interest in further Professional Development encompassing broader Garden topics so we have had multiple teachers attend Edible Schoolyard PDs, four 2nd grade teachers were accepted into Project Green Reach's program at the Brooklyn Botanical Garden this semester and we have another teacher taking classes at the Brooklyn Botanical Garden to become a Master Composter.

In March we hosted a Community Build Day. Thanks to funds provided by Lowe's Toolbox for Education, we were able to construct benches, a shade structure, a rainwater harvest system and mosaics done by the students to mark our beds. The day of the build we had so many volunteers it was hard to keep them all busy, but the results was terrific; many parents met each other for the first time, and interest in our garden and urban gardening in general was increased. Our teachers are also delighted to have a shaded area where our students can be brought outdoors for Garden instruction in the warmer months.

For the second year, our 2nd graders have managed the composting system at PS32. What began with one Earth Machine compost bin has expanded to three, and while the compost curriculum fits into the NY State Mandated Soil study, the benefits of the system have trickled out to the rest of the school. After the Garden Committee

led tours for the staff to highlight all aspects of the garden, teachers began to incorporate broader garden lessons into their curriculum. The compost station is a good example of these as teachers enhance their lessons in life cycles, consumers and decomposers and more. The rainwater harvest system is another example as the $4^{\rm th}$ grade has taken time follow and understand the plumbing and, based on this investigation, one group of students researched diagrams and videos to help explain the mechanics of the system to other class members.

Student involvement

PS32 frequently uses an inquiry-based method of teaching which fits well with any garden study. The kids do the math involved in planning, choose the bulbs to be planted, research the growth patterns, form hypothesis regarding potential growth outcomes and record observations of the garden in their notebooks year round. Outside of the classroom, they have both formal and informal opportunities to engage with the garden. We have also developed more focused days for the entire community, such as Garden Day in the fall, a build day in March and an Earth Day Celebration on April 22, all of which allowed the students to engage in fun activities that surround the garden. For his first unit of study this school year, our Art Teacher led every grade in a garden-themed painting projects which took place over four weeks and involved multiple layers of materials. Ten students' artwork from this unit were subsequently selected and made into gift cards to sell through the PTA., The 4th graders with the Brooklyn Historical Society on a project that allows them to use their understanding of rainwater harvest systems to see how ours can benefit the neighborhood by prevention of rainwater runoff and CSOs into the Gowanus Canal (located just one block away from the school). Next year, as the grades launch their yearlong enrichment studies in the garden, the students will have the opportunity to drive the course of study based on their interest in specific topics.

Promotion

The Garden Committee routinely presents at PTA meetings, includes updates in our monthly bulleting and posts on our school website to promote Garden activities, update the community about what is going on in the garden, and to recruit volunteers. Garden Day was promoted by signs, on the website, in a PTA email blast and through letters to politicians.

We continue to engage parents by inviting them to the on-site PD so they can help in the classrooms. In May and June we will be offering training so that families can volunteer for our weekly maintenance rotations this summer. We believe that the more we can get our parents to participate and become engaged with the garden, the more easily will we be able to continue to build on our past success.

Collaboration

Since its inception, the PS32 Garden has been registered with Grow to Learn and Greenthumb and has benefited from their grants, workshops and supply donations.

Last year, Greenthumb sanctioned their Americorp Volunteer to be on the premises once a week to assist teachers with garden related lessons, which was invaluable to our development. In return, we have registered to host workshops as needed by Greenthumb. Also in 2011-2012, we became a partner school with Brooklyn Food Coalition as our Wellness Committee created a new wellness policy, ordered a salad bar and increased access to fresh water during meals and in our portable classrooms.

This year we were able to bring Cookshop, a Title One program provided by the Food Bank of NYC, to our students in Prek, Kindergarten and 1st grade. We believe the nutrition lessons taught by this program to our youngest students are reinforced by their participation in the garden.

Because we believe that bringing the expertise of our community into our school will help support our teachers lessons in the garden, this year, we have added to our collaborative partnerships. Currently, our 4th graders are working with the Brooklyn Historical Society on a project about our community. Using our garden as reference, the Brooklyn Historical Society has helped engaged the students in a project to help them understand the impact of rainwater runoff into the Canal.

We have engaged with Brooklyn Botanical Garden on many levels. We met with the director and some students of their Brooklyn Urban Garden program last fall and since then have been a reference and resource for their current class as they assist other schools. We were also invited to speak at their Brooklyn Blooms Conference in May as part of a panel on school gardens. We have four teachers attending a semester-long Professional development through Project Green Reach, and we recently became part of their GreenBridge Community Garden Alliance.

The Gowanus Canal Conservancy (GCC) participated in our Garden Day event and helped our students plant a bed of native species. Inspired by our school wide commitment to the garden and mindful of our proximity to the Gowanus Canal, the GCC invited our 5th grade to be a part of a pilot educational program that they will launch in the 2013-2014 school year. The GCC has met with 5th grade teachers and other staff to begin to develop a curriculum that will support a yearlong study of the canal as it fulfills some of the NY State Mandated Curriculum in Science. The program will launch this spring with a tour of the canal for next years' 5th graders, their teachers and other staff at the school.

Educational Component:

The school's garden offers incredible opportunities for the teachers to create interdisciplinary lessons that encompass both the Social Studies and Science Learning Standards and Core Curriculum. Through our Garden Committee / Staff curriculum meetings, the teachers can also carefully plan lessons that enable the students from kindergarten through fifth grade to gain knowledge that is relevant to the New York City Social Studies and Science Scope and Sequence (ie. Family,

Neighborhood, Plants, Weather, Families and Communities Now and Long Ago, Life Cycles, Soil, Plant Adaptation, Native Americans, Nutrition and more). The garden curriculum connects with many of the thematic strands of Social Studies learning; Culture, Time, Continuity, Change, People and Environments, Production, Distribution, and Consumption, amongst others. It also helps to develop the inquiry skills necessary for deep scientific study; Classifying, Comparing and Contrasting, Gathering and organizing data, Generalizing, Inferring, Observing, and Predicting. By using the garden, we give our students hands on experiences that make real and tangible that which they are learning through text.

The hands-on activities that the garden promotes aid the students in developing their social skills. During these activities they are able to work in groups, discuss their thoughts and problem-solve. This is especially important for the students enrolled in the ASD Nest Program because Social Development Intervention is an essential part of the program.

As the confidence of our teachers in dealing with the garden has developed over the last year, the excitement of the children has increased as well. They are thrilled to be a part of and responsible for nurturing living things over time. There has been a run on garden and growing related books in our school library, which reflects student excitement (and is great for their nonfiction reading life!).

Project Analysis Pros

Because of our commitment to supporting the teachers this year, we have seen a lot of enthusiasm about our spring plantings, the garden is becoming more integral to a wider range of lessons and parent support is growing. We are very excited for the Spring as our efforts start to bloom in the garden and it is already rewarding to watch student excitement grow as their plants do.

Cons

After a year and a half of expanding our garden we realized the teachers' comfort level has not grown exponentially with the growth of our garden. We learned from teacher input that we need to dedicate time to exposing and supporting various areas of the garden curriculum. The planning came from Garden Committee, collaboration with staff members on various levels to see what would be most effective to support the teachers without overwhelming them. The key challenge that we face is generating still further support for our teachers as they build upon their lessons and knowledge of the garden. While many are growing excited we still have to make the garden an obvious asset to consider when planning curriculum.

Advice

One of the most essential components of our success in the garden is early buy-in and support from the Administration and a small group of teachers who wrote the garden into at least two units of study (social studies and/or science) for each grade.

This framework set the stage for many of the early garden projects and we have built upon that to increase garden related engagement. We have worked very hard, each year, to increase the communication level between those implementing the lessons and the Garden Committee so that we are supporting each other and maximizing harvests and usage in the garden.

Measure success

The garden and the community have been inextricably combined from the outset, so the benefits are constant and manifold. We believe that PS32's community garden and garden curriculum combine to provide essential components in leading our students, their families and our staff into the $21^{\rm st}$ century equipped with the skills, dispositions and responsibilities of life-long learners. We have been developing our project systematically, but our ultimate goal is a multi-year program that includes the scientific, social, cultural, economic and global impacts of agriculture. This year, we have had more classrooms actively growing produce, more engagement in multiple aspects of the garden by teachers, more specific requests for support from the teachers and more positive feedback from the community overall. We hope that the integration into a broad spectrum of lessons continues each year as we engage in new projects, analyze each years' results, thereby making each successive year in the garden more accessible to the teachers and students.

Future Plans

For next year, each grade will fully implement a year-long study on topics ranging from water, to composting to irrigation, nutrition and plant adaptation. Each one of these studies will be enhanced by activities in our physical garden. We also have plans to add small scale projects that will increase the range of activities in the garden beyond planting. Some ideas include a rainwater harvest garden which would give the runoff from our rainwater tanks one last chance to be absorbed before going into a storm drain, making upright gardens on the fences between some of the portable buildings, building and installing bird houses, studying pollination and planting optimal plants, starting a strawberry patch and more.

Summary

As noted above, our focus this year is on creating a support system for our teachers so that they can maximize their use of the garden we have created at PS32. While we have experience success along the way, the broad range of curricular possibilities presented by the garden has seemed daunting to some of our staff, many of whom have very little gardening experience themselves. We have tried to support a wide range of curriculum that will enable them to provide hands on learning in the garden while satisfying existing curriculum. Ultimately, the nutritional and environmental benefits of the garden are far reaching and we think the lessons it brings to our students are vitally important as they grow up in an urban environment. Not only does it reinforce the lessons in nutrition that are taught in and out of the classroom, but it imbeds an understanding of innovative

ways to maximize our use of resources and illustrates the connection between the food we eat and our environment. We are pleased that the staff and parents have been able to work together to create this valuable teaching resource for our students and this year we have accomplished many of our goals to further imbed it into the culture of our school.







Photos from Garden Day







Photos from Build Day





Parents helping Kindergarteners with Spring planting and compost demonstration.

Describe your school's indoor and/or outdoor composting efforts.

In Summer 2011, our Science teacher and a 2nd grade teacher took a composting class at Brooklyn Botanical Garden. The Garden Committee purchased one Earth Machine Compost Bin and in the fall, the 2nd grade began our composting project as an enhancement to their NY State Mandated Unit on Soil. Food scraps were collected by a small group of teachers and Garden Committee Members, a leaf drive was hosted and the 2nd grade began bringing out small groups of students each week to chop, layer and mix the compost. During the school year, the students went from being repelled by the smells, to really becoming excited by their results. The Librarian helped them make compost tea and then, in Fall 2012, at our First Annual Garden Day, we had a sifting station where our 2nd graders from 2011-2012 were in charge.

This year, the 2nd grade teacher who led the efforts moved to preK, but another 2nd grade teacher has taken the reins. We have expanded to 3 outdoor Compost Bins and this teacher is currently taking a course at the Brooklyn Botanic Garden to become a Master Composter. Additionally, we have been able to take the younger grades out to see the bins, give them a brief overview of composting and let them hold the worms that have gathered. Also, our 4th graders have taken trays of compost inside for illustration during units on decomposers and consumers. At our Garden Day last fall, our Science teacher had a worm bin that our students were able to dig through. We borrowed a dry shredder bicycle from DB-Coop which made shredding our browns fun and memorable for our students, and we had a station where kids sifted our finished compost. On April 22, 2013, our Earth Day Celebration included a composting workshop led by Material For the Arts. In these ways, our composting program has been able to have an impact on a growing percentage of our student body.

Inside, our Science Teacher began an indoor worm bin in the 2011-2012 school year. Kids observed and examined the worms, harvested the finished compost, fed the worms and created a comfortable environment for the worms. A 2nd grade teacher took the worms over the summer and brought them back this past fall. Unfortunately, the worms died over the winter, but we intend to begin another worm bin next fall.

Describe collaborations with outside organizations, including compost education.

In 2011-2012, we had the benefit of an AmeriCorps Volunteer from Greenthumb visiting our school once a week. He was helpful in engaging the students in the composting project and also arranged some meaningful Field Trips including one to Governor's Island to see their Composting and another to the Gowanus Canal Conservancy's composting site on the DSNY Salt Lots nearby. These allowed the students to compare our smaller scale composting to larger initiatives. Similar field trips will be replicated this year.

Our teacher's composting education has come from Brooklyn Botanic Garden, but we also have a parent who is knowledgeable and participates in the efforts at Brooklyn Food Coop.

Explain if and how these composting efforts will be maintained on an ongoing basis.

With our teacher's commitment to continuing education in composting, we feel strongly that our program will be able to continue annually. We need the compost to fertilize our garden beds and we have seen the excitement generated in our students by the hands-on experiences composting has provided.

Our teacher who is in a Master Composting course is, for her final project, drafting a plan to involve more grades in next year's composting program. She is also exploring the feasibility of using food scraps from the cafeteria in our composting program.

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

Yes. Our effort started off with a small bin and two teachers who were willing to study the process. From there, they were able to engage small groups of students in the activity and over time, the number of adults and students with a good understanding of compost has grown. By keeping the number of people contributing food scraps at a level that was appropriate for our capacity, we were able to grow the program slowly and productively.



