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ENV 560

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Leave No Child Inside

**Proposal/Justification:**

 At Commodore John Rodgers Elementary/Middle School there is a vast expanse of space that is underutilized. This space would serve very well as an edible schoolyard. It is known that children from communities that exhibit generational poverty often have very poor diets. The edible schoolyard would provide students with a free organic lunch every day. The schoolyard would also provide opportunities for students to get out of the classroom and have a hands-on experience on their own campus.

 The parcel of land that would be used for the edible schoolyard is in the rear of the building on Washington Street. This land is approximately twenty feet by twenty feet. Besides grass, there is currently no vegetation in the area. In order to avoid vermin and trespassers, a fence will have to be erected around the perimeter of the space.

 This project will be available for all students from pre-kindergarten to eighth grade. The following standards will be met:

**A.** CONSTRUCTING KNOWLEDGE

**INDICATOR**

**1.** Raise questions about the world around them and be willing to seek answers to some of them by making careful observations and trying things out.

**A.** NATURAL RESOURCES AND HUMAN NEEDS

**INDICATOR**

**1.** Recognize and explain how Earth's natural resources from the natural environment are used to meet human needs.

**B.** ENVIRONMENTAL ISSUES

**INDICATOR**

**1.** Recognize and describe that the activities of individuals or groups of individuals can affect the environment.

**C.** GENETICS

**INDICATOR**

**1.** Explain that there are identifiable stages in the life cycles (growth, reproduction, and death) of plants and animals.

**F.** ECOLOGY

**INDICATOR**

**1.** Explain that organisms can grow and survive in many very different habitats.

 Every teacher from pre-kindergarten to eighth grade will be involved in this project. With the push for cross-curricular lesson planning, there are myriad opportunities for teachers to tie in ELA, Math, and Social Studies standards. This will involve the need for full staff professional development around the initiative. Teachers will be required to plan lessons that incorporate the use of the garden on a monthly basis.

 The science teacher for each grade level will serve as the point person. Each teacher will be required to appoint a student captain for that grade level. It will be the responsibility of the teacher and captain to maintain the garden, delegate jobs for students, and collect data throughout the school year. Teachers and captains will meet weekly to analyze the data collected and troubleshoot any issues that may arise.

 This initiative will also require the participation of the school cafeteria staff. If implemented properly, the gardens will provide the school with viable, healthy options that can supplement, and ultimately replace, the current school lunch options. Currently, students are not provided with many choices when it comes to their lunch.

 According to a study conducted in 2008, “Poor dietary patterns and obesity, established risk factors for chronic disease, have been linked to neighborhood deprivation, neighborhood minority composition, and low area population density (as found in more rural areas).”(Larson, Story, Nelson, 2009, p. 74) To aid in the healthier choices of our students, the edible schoolyard would provide the Commodore John Rodgers community with healthier food options. The fact that the responsibility for tending the garden lies in the hands of the students, there will be more buy-in, ultimately leading to better lifelong choices that can be shared with family and community members. Studies show that, “broader implementation and investment in effective school nutrition programs have the potential to improve student’s diet quality, academic performance, and, over the long term, their health.”(Florence, Asbridge, Vuegelers, 2008, p. 16)

 Successful schoolyard gardens have popped up all over the United States. Many studies have been conducted to show the benefits to both student health and academics. According to researcher Dorothy Blair (2009), “Gardens that children help to plan allow "close, personal experiences with the earth" (Thorp & Townsend, 2001, p. 349), repeated sensory contact, and interactions with a particularly intimately known space, creating confidence in the processes of nature that some researchers believe is necessary for healthy human development” (p. 15). This opportunity for the students of Commodore John Rodgers would be beneficial in many different ways.

 When implemented, the edible schoolyard will also provide the environmental benefits to the campus of Commodore John Rodgers. The space that is the future home to the garden is often covered with litter and debris. In the effort to prepare for the garden, students will thoroughly clean the space. Students will also closely monitor the area and ensure its cleanliness throughout the school year. This not only will make the space healthier for plant growth, but also beautify the campus.

 A team of students will also be chosen to tend the garden throughout the summer months. These students will be responsible for schoolyard management and data collection. It is proven that students lose a percentage of acquired skills during the summer months. This initiative will provide students and teachers with the opportunity to be involved in rigorous activities, leading to a decline in the summer slump.

**Timeline/Budget:**

January, 2014- Edible Schoolyard team will meet to discuss the viable options for funding. The team will seek grants and also look at the school budget to see if funds are available for the project. Grants will be written and reviewed.

January-June, 2014- Plans will be drawn for the garden with specific attention focused on area of placement. Vendors will be contacted for the procurement of all of the materials needed for the edible schoolyard. Teachers and student captains will visit working farms to troubleshoot and ask questions regarding implementation of a working garden at Commodore John Rodgers.

March, 2014- Edible schoolyard team will meet with the cafeteria workers to discuss possible alterations to the school menu with regards to the available produce from the garden.

June, 2014- Teachers and student captains will prepare the space for the garden. This includes removal of debris, turning the land, installation of fencing, and addition of gardening soil.

June, 2014- Teachers and student captains will plant the vegetables in the edible schoolyard. Plants will include: tomatoes, cucumbers, string beans, squash, bell peppers, and herbs.

Summer, 2014- Teachers and student captains will maintain the garden throughout the summer months. The harvest will be prepped and frozen for use during the school year.

2014-2015 School Year- Teachers and students will maintain the edible schoolyard. Teachers will plan cross-curricular lessons that incorporate the use of the garden. Students will collect data (soil samples, crop yield, student surveys, etc.).

List of Materials:

* shovels (6)
* rakes (2)
* spades (4)
* garden shears (3)
* gloves (20 pairs)
* garden hose (1)
* industrial trash bags (1 box)
	+ All of these materials will be acquired through DonorsChoose.org and will total $350.00
* organic gardening soil (25 bags)
	+ 25 bags @ $7.47 a bag = $186.75
* fencing (144 feet)
	+ 80 feet @ $21.00 per 5 feet = $336.00
* trellis (4)
	+ 4 @ $19.00 = $76.00
* tomato plants (15)
	+ 15 plants @ $1.15 per plant = $17.25
* cucumber plants (5)
	+ 5 plants @ $1.15 per plant = $5.75
* string bean plants (5)
	+ 5 plants @ $1.15 per plant = $5.75
* squash plants (3)
	+ 3 plants @ $1.15 per plant = $3.45
* bell pepper plants (5)
	+ 5 plants @ $1.15 per plant = $5.75
* herbs (1 of each: basil, thyme, rosemary, chives, parsley, oregano, and sage)
	+ 7 plants @ $1.15 per plant = $8.05

Total: $994.75

 Funding for this project will come from several different places. Teachers will post items on DonorsChoose.org. This is a not-for-profit website that aids in the acquisition of materials for the classroom and other academic projects. There are also grants available for the funding of edible schoolyard projects through REAL School Gardens. If acquired, the grant will cover the majority of the funding necessary for the project.

After the edible schoolyard has been established, fundraising can be made through the Commodore John Rodgers “Farmer’s Market”. This will allow for students to sell excess produce to the members of the surrounding Butcher’s Hill community. Any funds that are made will be put directly back into the project for future years.

**Barriers:**

The acquisition of funding is a barrier that could stand in the way of full implementation of the project. Because the budget for the 2013-2014 school year is already written and approved, it will be difficult to find funds to cover the edible schoolyard. This means that the funds would have to be acquired through other means. It will take grant writing, donations, and fundraisers to ensure that all of the money is raised.

Since the school is in an urban environment, many of the students do not have any prior experiences with working in a garden. It may be difficult to get student buy-in. Teachers and administrators will have to be very strategic in rolling out the initiative to the school community. Teachers could gather student testimonials, photographs, and video clips from schools that were successful in implementing an edible schoolyard. When the students see that children just like them were part of this process in other cities, it may spark an interest in becoming invested in the project.

The community around Commodore John Rodgers has a lot of foot traffic. There are also many homeless people who use the parking area and nearby amphitheater for shelter in the evenings. It will be difficult to keep these people from entering the garden and stealing the produce for personal use. In order to keep this from happening a sturdy fence will need to be erected around the entire perimeter of the garden area. Also, having an open forum discussion before the edible schoolyard is constructed and inviting parents, community members, and stakeholders to attend, may give the team the opportunity to express the immense educational and social importance of the garden in hopes that people take a claim in maintaining its integrity.

Vermin are very prevalent in the community surrounding the school. It is a concern that the rodents would infiltrate the edible schoolyard and eat the produce. There is also the fear that the soil and produce could become contaminated. The fence that will be erected could serve as the first point of defense against the vermin. This barrier could also serve as a great research project for the students involved in the initiative. Students will be charged with researching natural, low-cost methods of pest control. Students will present their research and the team will decide which student’s idea to use.

Weather in an urban environment can also pose as a barrier to a successful edible schoolyard. Summers in the city can often cause the presence of a heat island. The temperatures can exceed the normal high temperatures reached in surrounding suburbs. These high temperatures can affect some of the plants, causing less yield, stunted growth, or death. The summer team will have to be vigilant in their efforts to maintain the garden. The garden will have to be watered on a daily basis and individual plants will have to be analyzed to determine the health throughout the warm summer months.

**Outcomes:**

As a result of this project, students will get out of the classroom and have a hands-on learning experience. So often teachers say that they are proponents of experiential learning for their students. This initiative will serve as a way to meet many of the science standards for grades pre-kindergarten through eighth. Students will gain a greater understanding and respect for their immediate surroundings; hopefully carrying it on to their family and community.

 This project will also allow for a lot of collaboration with stakeholders and community members. Many Title I schools struggle with getting parents and community members involved in the school. An initiative such as this requires all hands on deck. Parents will take more pride in their school and it will open the doors to making Commodore John Rodgers a true community school.

 School lunches and student health will be positively affected by the edible schoolyard. By using fresh, organic produce as a supplement to the food that is currently being served, students and parents will have first-hand knowledge of what is being served and where it comes from. Students will also have a say in what they would like to grow, knowing that it will eventually be making its way to their plate. Data would have to be collected over a matter of several years to show the direct correlation between improving student health and the edible schoolyard.

 After becoming established, the schoolyard can be used as an exemplar for other schools in the surrounding area. Many of the schools in Butchers Hill and Patterson Park are in neighborhoods that are in the heart of a very ecologically conscious community. When the word spreads about a functioning edible schoolyard, many of the community members will push for a similar initiative in their school. This will hopefully spread outside of these isolated communities and throughout Baltimore City.

The final, and most important, reason to have this initiative is to allow students to enjoy their selves in nature. Many urban students do not know how to enjoy the outdoors and use it as a place to have fun, let go, and be a kid. When the children experience the process of working with the land, they will gain a stronger relationship with their immediate surroundings. This is something that will open their eyes to a whole new world and will encourage other to leave no child inside.

**References:**

Blair, D. (2009). The Child in the Garden: An Evaluative Review of the Benefits of School Gardening. *The Journal of Environmental Education, 40 (2), 15-38.*

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