

**Project Title: \*** Booker T. Washington Middle School Learning Garden

**To be eligible for the grant, projects should be specifically tied to one or more of the following topics (Choose all that apply) \***

Water Conservation  
Recycling and the 3 Rs  
Reuse or Upcycling Projects  
Watershed Education (as related to drinking water)  
Native Plant and/or Pollinator-Friendly Gardens  
Waste or Water Audits  
Waterwise Landscaping

**Amount** \$500

**Requested: \***

**Teacher / Leader's Name:** Sean Callender and Mrs. Nelson Rogers

\*

**School or Organization Name & Complete Address: \***

Booker T. Washington Middle School  
Attn: Cheri Elrahhal, Parent Volunteer  
Learning Garden  
3700 Chestnut Avenue  
Newport News, VA 23607

**Subject / Grade / Age Range: \*** grades 6-8, mostly grade 7 will start the project

**Number of Children: \*** approximately 425

**Goals & Objectives: \***

We are designing a learning garden/outdoor classroom for our students. This is a new garden and we are designing/building it from the ground up. We will have seating area, native plants/bushes and pollinator plants, there will be a pond, a greenhouse, mulches area, handicapped accessible areas, etc. The 7th grade science teacher will be incorporating her experiments and SOLs topics by utilizing the space for

water tests, projects, experiments, etc. Edibles will also be raised in the greenhouse and transferred to in-ground and raised garden beds. The edibles, in turn, will be eaten by the students and also used for experiments. We will be using rain barrel(s). We will be recycling and repurposing items to save them from going in the landfill. We need to purchase mulch, plants, trees, benches, pond equipment, testing/experiment supplies, worm bin and worms, recycling items, tools, greenhouse equipment, wheel barrows, shovels, patio pavers, and many other supplies. The \$500 will not cover the entire project; however, it will help us to get it started. We are also asking the students' families for donations--both monetary and donation of tools, equipment, and supplies. This learning garden and outdoor classroom will be utilized by the art students, as an additional sitting area during lunch time, outdoor class for all classes, science experiment space, meeting space, and for edible gardening, and other uses, as needed. We hope to eventually implement an after-school volunteer time or after-school activity relating to the garden space. Thank you for considering our project.

**Project Timeline: \***

We are using newspapers and cardboard to kill the existing grass area. That will be done by the students when they arrive back to school after spring break (around April 12, 2017). Then, we will be putting down mulch immediately. We are asking for donations and applying for this grant in hopes to acquire funds to purchase trees and plants. We will be working on completing the garden as we receive donations. The grant money will help us to buy the trees, border plants, bushes, install and get the pond working, buy supplies and equipment to complete the work. These items will mostly likely cover more than the \$500 and we hope to continue receiving donations from school families. We hope to buy some native plants and bushes at one of the local Master Gardener's native plant sales in April or May 2017.

**Project Budget: \***

No budget. We are completing the garden as we receive donations from families. We have bought one tree, two families have donated 2 shovels and a birdhouse and a bird bath, another parent will be donating some border plants from her yard. We have also had cardboard boxes and newspapers donated. The school facilities department has agreed to deliver the mulch for the project, but that has not yet happened. We also have a parent that is donating the pond. We still need to purchase the pump and supplies for the pond.

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Name: \*

Cheri Elrahhal

Email: \*

[melra001@odu.edu](mailto:melra001@odu.edu)

Phone Number: \*

(757) 884-8233

All information in this application is correct. I have reviewed the proposal with my school principal or organizational leader. As a condition of accepting the mini-grant money, I understand that I will be required to complete and submit the project summary form and pictures from the project upon completion of this project. I will submit my summary report within 14 days of completion. \*

By checking the box and submitting this form, I certify the above.

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**Booker T. Washington Middle School**

**Newport News, Va.**

**Learning Garden Project and Supply List**

***Ms. Nelson-Rogers' purchase list and what she plans on doing with her requested items:***

...here is water quality test kit as well as soil test kit. Then we can add gloves, net, small items to help with gardening and pond. Life Science SOLs LS. 1 scientific investigation SOLs

LS. 2 – the student will investigate and understand that all living things are composed of cells.

- a) Cell structure and organelles
- b) Similarities and differences between plant and animals cells

*We can collect water from pond, like Leewenhoek, to show develop of cell theory, also compare animal to plant cells. We have plants in the garden help support understanding and comparison of cells. School already has microscopes. No cost here.*

LS. 3 The student will investigate and understand that living things show patterns of cellular organization.

- a) Cells, tissues, organs and systems

*Use plants in courtyard to understand the structures of multicellular organisms*

LS. 4 The student will investigate and understand how organisms can be classified.

- a) The distinguishing characteristics of domains of organisms
- b) The distinguishing characteristics of kingdoms of organisms
- c) The distinguishing characteristics of major animal phyla and plan divisions
- d) The characteristics that define a species

*Use of field guides and dichotomous keys, we can understand how living things are classified.*

LS. 5 the student will investigate and understand the basic physical and chemical processes of photosynthesis and its importance to plant and animal life.

- a) Energy transfer between sunlight and chlorophyll
- b) Transformation of water and carbon dioxide into sugar and oxygen
- c) Photosynthesis as the foundation of virtually all food webs.

*Courtyard and pond will show how plants do photosynthesis and provide the foundation to an ecosystem.*

LS. 6 The student will investigate and understand that organisms within an ecosystem are dependent on one another and on nonliving components of the environment.

- a) The carbon, water, and nitrogen cycle
- b) Interactions resulting in a flow of energy and matter through an ecosystem
- c) Complex relationships within terrestrial, freshwater, and marine ecosystems
- d) Energy flows in food webs and energy pyramids

LS. 8 the student will investigation and understand interactions among populations in biological community.

Key concepts include

- a) The relationship among producers, consumers, and decomposers in food webs
- b) Niches.

LS. 9 The student will investigate and understand how organisms adapt to biotic and abiotic factors in an ecosystem.

- a) Characteristics of land, marine and freshwater ecosystems.

LS. 11 The student will investigate and understand the relationship between ecosystem dynamics and human activity.

- b) Change in habitat size, quality, structure
- e) Environmental issues

Step 1: Shopping Cart

Secure | https://www.fishersci.com/shop/orderdisplayview?storeId=10652&langId=-1&shopCart=true&stepNumber=0&accountName=BOOKER%20%20WASHINGTON%20MID%20

Apps: Ocean Abiotic Factors, Food Web | Maryland, Clean the Bay Day - C, IB BIOLOGY - Coting, Bridge Ocean Educat, Sign Out, Biology: Cell Structure, MyWay

Shipment Setting: Multi Ship

1 View Cart | 2 Shipping | 3 Payment | 4 Review & Submit

Add all items to a List

Items in Your Cart	Price	Quantity	Availability	Item Subtotal
 S45078 FRESH WATER TEST KIT	\$371.18 / Each List Price: \$554.00	1	In Stock (1) Estimated Delivery 04/27/2017 Available in NAZARETH, PA (EPD)	\$371.18
 S65951 SOIL NPK KIT	\$20.87 / Each \$125.24 / Case of 6 EA List Price: \$31.00	1	In Stock (1) Estimated Delivery 04/27/2017 Available in NAZARETH, PA (EPD)	\$20.87
<b>Order Subtotal</b>				<b>\$392.05</b>

Promo Code? \*

**Cart Total** \$392.05

Laura Nelson-Rogers  
 7<sup>th</sup> Grade Life Science Teacher  
 Lead Science/STEM Teacher  
 Booker T. Washington Middle School  
 Newport News, VA

Ms. Laura Nelson-Rogers is requesting the water test kit in the graphic above, fishersci.com, Fresh water test kit, \$371.18 and a soil NPK kit at \$20.87.

**Other items to be purchased:**

Pond plants 10 plants at \$3 each (approximate price), Anderson's, Jefferson Ave., Newport News, VA. Sells them

10 pairs of gloves at \$1.79 each, Harbor Freight, Newport News, VA.

1 wheel barrow, Lowe's, \$49.98

Native bushes (elderberry, chokeberry), prices are approximate, 4 at \$13.00 each

Other bushes (gardenia, juniper) 10 at \$10 each

Various pollinator plants to plant spaced out in garden 20 plants at \$3 each

Paving stones, blocks (approximate) \$50

5 foot tall Red Bud tree \$30

Greenhouse supplies (top soil, potting soil) 5 bags at \$3.50 each

Seed starter trays, Lowe's, 5 at \$7.97 each

Portable composter, Sam's Club or Lowe's or Home Depot, \$130

Shovels, Lowes, 3 at \$10 each

Red worms, Uncle Jim's Worm Farm, \$35 for 2000 worms

24 x 70 cedar raised garden beds 5 at \$115 each (example: <https://www.lowes.com/pd/All-Things-Cedar-24-in-W-x-70-in-L-x-5-5-in-H-Unfinished-Cedar-Raised-Garden-Bed/4482380>)

Wheelchair accessible raised garden bed, \$279, (example: [http://www.target.com/p/unassembled-vertical-garden-bed-brown-grommics/-/A-16732508?lnk=rec|pdpipadexsrch|related\\_prods\\_vv|pdpipadexsrch|16732508|3](http://www.target.com/p/unassembled-vertical-garden-bed-brown-grommics/-/A-16732508?lnk=rec|pdpipadexsrch|related_prods_vv|pdpipadexsrch|16732508|3))

We already have rain barrels, mulched area, pond (but not all the supplies), pond pump, donated crepe myrtle tree seedling, donated border liriaopi plants, donated green house, water hose, possible donated worm bin (if not, we will either make a diy one or buy one....most likely make a diy one using storage tubs). One of the parents has a utility trailer and can buy soil for the raised garden beds in bulk. We checked into the Nutri-Green availability and didn't realize that the program had stopped at the landfill. We did find a company, Lawn Ventures, in Newport News, VA that has very good prices are garden soil mixture. We also plan on repurposing pallets to make vertical planting containers. We plan on growing edibles so that he classes can give them to the students for snacks and to the life skills class for cooking skills.

Currently, the students have a monitoring science project they are working on. Prior to laying down the mulch, they got plant services to kill the grass and weeds. They waited a week and sprayed weed killer again (only over the areas needing additional application). Then, they took the space and divided it into three sections. One section had wet newspaper laid down and mulch applied on top of it, one area had mulch applied directly to the killed grassy area, and the third section had wet cardboard boxes laid down on the ground under the mulch layer. They are monitoring to see which method works best to control weeds.

In the summer, the area will be maintained by two determined volunteer parents (these two are on the garden committee), other student and parent volunteers, and two teachers that are on staff during the summer, and the principal. We will be using rain barrel water to water the plants. The janitors will also be helping out. Plant services maintains the grass cutting and weed-eating duties. During school, the various classes will be maintaining the garden each week.

Here are some webpage and Facebook links where you can find more information out about our school...

<https://www.facebook.com/BookerTWashingtonNNPS/>

and,

<http://washington.nn.k12.va.us/index.html>

When the garden is complete, we will have a sitting area using picnic tables and repurposed old tires and cinder blocks, we will use a worm composter and regular portable composter to make comparisons and projects, we will perform testing on the pond water and other local waterways when the children go on their field trips, we will have bird feeders, mason bee nest, lady bug house, bird bath, greenhouse, bird houses..and, other features as we receive donations from school families.

If you have any additional questions, please call me, Cheri Elrahhal, at 757-884-8233 or email me at [melra001@odu.edu](mailto:melra001@odu.edu). Thanks!

Cheri Elrahhal

707 Spruce Road

Newport News, VA. 23601

