Green Healthy Smart Challenge!

2014—2015 Application

School Information

School Name and Number: Baltimore Lab School, MAEOE Green School as of 2014!
School Address: 2220 St. Paul Street, Baltimore, Maryland 21218
Principal's Name: David Lightfoot
Principal's Email: david.lightfoot@baltimorelabschool.org

Principal's Signature (required):

MSDE Non-public Special Education and an independent private school serving grades 1-12.
Our school is located in the Old Goucher neighborhood of Charles Village South.

117 students' 30 teachers, 10 related service, 6 support staff, 14 administrators

The following organizations have helped us provide environmental education to our Baltimore Lab School Watershed Stewards:

Baltimore Tree Trust: http://baltimoretreetrust.org/
Watershed Steward Academy: www.aawsa.org/
National Aquarium: www.aqua.org/
Blue Water Baltimore: www.bluewaterbaltimore.org/
MAEOE: www.maeoe.org/green-schools/
Key School: www.keyschool.org/
Living Classrooms: https://www.livingclassrooms.org/
Park School: www.parkschool.net/
Oregon Ridge: www.oregonridgenaturecenter.org/
Irvine Nature Center: www.explorenature.org/
Baltimore City Recreation and Parks: http://bcrp.baltimorecity.gov/
National Geographic: http://education.nationalgeographic.com

MARYLAND CBTRUST.ORG

CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

MICA
MARYLAND INSTITUTE COLLEGE OF ART

SustainaFest
Be Inspired. Take Action.

2014-15 Goals

Our goal this year is to ensure that students at The Baltimore Lab School graduate environmentally literate with the tools they need to make informed choices to protect and restore local environments and the Chesapeake Bay. We are currently noticing an excitement about being outside and learning about the Bay. More teachers are becoming involved and including meaningful watershed experiences in their curricula. We are seeing more student action projects and numbers of Outdoor Student Leaders.

I think our greatest success is the excitement and genuine love of the Bay that our students are demonstrating. The smiles on their faces when they are out of the school building and on the Bay are priceless. By spending time outside in the Chesapeake Bay Watershed they are falling in love with the Bay. Our ultimate goal is to support opportunities for environmental stewardship which our Watershed Steward Academy partners at the Arlington Echo Green Center define as "respecting and caring for the environment when no-one is watching".

Stewardship = Knowledge + Skills + Attitude + Motivation

At Baltimore Lab School we apply our multi-sensory, experiential, success-based club methodology approach to adventure-based learning and environmental literacy goals. Through academic classes, adventure activities, outdoor day trips, and longer excursions, our learning disabled students explore their world, build their self-esteem, and emerge with a stronger sense of themselves as leaders and environmental stewards. The form and content of Outdoor environmental activities is designed to give students an "I can do it!" experience and help them meet specific environmental-issue instruction goals. Environmental literacy is developed in scope and sequence in all grades and "threaded through" art, music, photography, science, government, history, geography, language arts, math, and physical education. Teachers in these disciplines collaborate to add content, meaning, and hands-on extension activities that allow our students to become true stewards of the environment.

Baltimore Lab School students and staff began participating in Outdoor Education trips and projects as Baltimore Lab School Watershed Stewards in 2012. This was enhanced by a grant from the Chesapeake Bay Trust. This grant partially funds learning with the educators from the Chesapeake Bay Foundation aboard boats and on islands in the fall. Students are motivated to investigate issues and ask questions. As a result of this process, teachers help student leaders facilitate the completion of action projects through their academic classes in the spring.

Student "Green Team" Information

Our 2014-15 green teams consist of 25 teachers who have agreed to make their classrooms a "Hope Spot".

Baltimore Lab "Hope Spots" are classrooms where teachers engage students to be Watershed Stewards of the Chesapeake Bay. This is our school's commitment to being a Green School and meeting the Environmental Literacy goals of the Governor's 2014 Chesapeake Watershed Agreement.

Student Leaders:

Sara Lowe, Grade 11 Sara Lowe

Noah Healy, Grade 10 Noah Healy

Evan Magladery, Grade 12 Evan

Victor Olowabi, Grade 11 Victor.O

Conner Joyce, Grade 10 Conner Joyce

Bradley Wyatt, grade 8 Bradley Wyatt

Magnus Watson, grade 8 Magnus Watson

Max Jett-Parmer, grade 7 Max. JP

Alex Mueller, grade 6 Alex M

Ben Slowe, grade 11 Ben Slowe

Teachers:

John Mulherin, High school government and Summer Session

Ite Clary, Environmental and Chemistry Ite Clary

Robin Brooks, Technology R.L. Brooks

Karen Yeoman, Middle School Social Studies Karen Yeoman

Kara Huggins, Middle School Science Kara M

Darlene White, Middle School Language Arts Darlene White

Ruth Goodlaxson, Middle School Math

Perrie Kohel, Lower School Science Perrie A R Kohel

Laura Parkhurst, Discovery Club Laura E. Parkhurst

The following project ideas were initiated by students after attending Chesapeake Bay Foundation trips and learning about the environment and sustainability.

Urban Forest and Clean Air.

Our discovery of and care for our urban forest was sparked by participation in a 2011 Urban Forest Project and participation in an after school club of urban forest explorers. 9th grade student, Julia P. looks up the AQI, an index for reporting daily air quality, daily and raises a colored flag on our flag pole. The flag indicates how clean or polluted your air is each day, and what associated health effects might be a concern for you. Middle school students went on a photo scavenger hunt to capture air pollution. They then made air pollution monsters to glue to their photographs to make the invisible visible.

This year we are partnering with the *Baltimore Tree Trust* to offer *Tree Keeper* classes at the *Baltimore Lab School* in the spring of 2015. Teachers and students have agreed to adopt trees in our neighborhood by learning about them and taking care of them over time. Students would like to create no-idling zones outside in our drop off and pick up lanes.

Storm Drains! Let's Talk about Trash!

After studying the impact of storm water pollution on the Chesapeake Bay, middle school students brainstormed solutions and took action in the Old Goucher community. Through collaboration with Blue Water Baltimore, students hit the streets and added a touch of color to nearby storm drains, reminding our neighbors that a healthy harbor starts here!

As a way to give back to our community on 9/11/2014, John Mulherin's High School Government classes went into the neighborhood to pick up trash and monitor our storm drains before a big storm. They collected 30 pounds of trash.

The trash students picked up on our Baltimore streets is composed of the same Top 10 types debris found in oceans, in order of abundance.

- Cigarette butts
- Plastic bags
- Food containers
- Caps and lids
- Plastic bottles
- Paper bags
- Cups, plates, eating utensils
- Glass bottles
- Beverage cans




Stream Investigations, Oh My!

Participating students, in Ms. Clary's Environmental Science class will continue to conduct stream surveys which will include looking for macro-invertebrates and conducting water quality tests. Students will summarize the data they collect, and continue to inform the Ben Oaks Community Organization, State Park officials and local agencies regarding the water quality and condition of these streams. Streams we will investigate are:

- Ben Oaks on the Severn River, specifically Bear Creek and Cool Stream which flow into the Severn River. We have been conducting stream surveys at this location for 3 years.
- Streams in Oregon Ridge and Robert E. Lee State Park which flow into the Jones Falls, Herring Run and the Baltimore Harbor.

Baltimore Lab School Sustainability Learning Center

Baltimore Lab School's summer program has a yearly environmental education initiative focused on helping students learn about different aspects of our world and sustainability. Through a creative pedagogical approach, the program integrates science, math, and English classroom lessons, while allowing the students to participate in service learning and outdoor adventure trips. The curriculum combines structured classroom learning with experiential outdoor experiences. Students regularly take outdoor trips or participate in activities that focus on the idea of sustainability including trips to Oregon Ridge, Real Food Farms, Irvine Nature Center, or with the Chesapeake Bay Foundation.

This summer will be no different as John Mulherin and his students are planning on using a curriculum that focuses on population growth and sustainability designed by Population Education. His high school students would like to develop a sustainability learning center that can be used as hands on educational tool for the school. This gardening area will be used to help our students better learn and engage with sustainability issues that are relevant to their lives and community. In the short term, we would like to build an area in the Baltimore Lab parking lot that includes a raised gardening bed, an aquaponics tilapia fish system, and a composter. Over the next few years we would like to add a small chicken coop, a hoop house, and power the aquaponics system through alternative energy.

Project Coordinator Information

The Project Coordinator is the administrator, teacher, or volunteer who will be the point of contact for notification of funding, reporting requirements, and special events and opportunities related to the program.

Project Coordinator's Name: Patti Child Patti Child

Project Coordinator's Position at the School: Outdoor Education Coordinator

Project Coordinator's Direct Phone Number: 410-987-8255

Project Coordinator's Email: patricia.child@baltimorelabschool.org

Project Description

1. Baltimore Lab School Watershed Stewards
2. Student driven best management practices have been completed by our Baltimore Lab School Watershed Stewards in the Chesapeake Bay Watershed flowing from the sub watersheds of the Jones Falls to 106 miles south into the Chesapeake Bay and Port Isobel Island, Virginia. This year, we would like funds for materials to continue our efforts towards a sustainable school and local stewardship of the Bay, concentrating on behavior change and restoration efforts in our Old Goucher Neighborhood.

- Stream Investigations, Oh My! Our Baltimore Lab School Watershed Stewards have been cleaning and conducting stream surveys for 3 years. Ms. Clary's high school environmental science students are motivated and ready to continue to explore and restore local streams. We have lesson plans, field data sheets, and information from the Department of Natural Resources. We would like to purchase additional materials to assess water quality, through testing and collecting macro invertebrates. We will report our findings to appropriate agencies.

- Let's Talk about Trash! Baltimore Lab School Watershed Stewards in middle and high school have adopted and monitor our local storm drains. Students have participated in Project Clean Stream for 3 years. This year, on September 11, 2014 Mr. Mulherin's

students picked up 30 pounds of trash while monitoring our storm drains. We were appalled at the amount of trash on our neighborhood streets. Robin Brook's high school technology students want to join in and do something about the problem. Students would like to collect trash, build bottle bricks and a make a peace bench for our school yard. We have enough trash, for sure. We would like to purchase materials to make this project a reality. We are also partnering with MICA Curatorial student Christopher Beer to discuss being involved in his Sheridan Libraries and University Museums Exhibition at Johns Hopkins University. Workshops for our High School students focusing on our watershed and trash are scheduled for April 13th and 17th. Our High School students have also been invited to participate in an action project at an Earth Day event on April 22nd, 2014, "Talking about Trash!"

- Urban Forest and Clean Air. Our discovery of and care for our urban forest was sparked by participation in a 2011 Urban Forest Project and photo scavenger hunt by our 2013 after school club of urban forest explorers. In 2013, we joined the school flag program through the Environmental Protection Agency. This year, high school environmental science student, Victor Olowabi will look up the AQI, an index for reporting daily air quality, and raise the appropriate colored flag on our flag pole. The flag indicates how clean or polluted our air is each day, and what associated health effects might be a concern for us. Also, in 2014-15 we are partnering with the *Baltimore Tree Trust* in order for our students to become *Tree Keepers.* Classes at the *Baltimore Lab School* are being planned for the winter, with plantings in the in the spring of 2015. Teachers and students have agreed to adopt trees in our neighborhood by learning about them and taking care of them over time. We plan to document their growth in a Baltimore Lab School Urban Forest Project. We would also like to receive funds and or materials to make "no idling" signs for the "drop off and pick up" area in front of our school.

- Summer Capstone Project. Baltimore Lab School Sustainability Learning Center
  Baltimore Lab School's summer program has a yearly environmental education initiative focused on helping students learn about different aspects of our world and sustainability. Through a creative pedagogical approach, the program integrates science, math, and English classroom lessons, while allowing the students to participate in service learning and outdoor adventure trips. The curriculum combines structured classroom learning with experiential outdoor experiences. Students regularly take outdoor trips or participate in activities that focus on the idea of sustainability including trips to Oregon Ridge, Real Food Farms, Irvine Nature Center, or with the Chesapeake Bay Foundation. This summer will be no different as John Mulherin and his students are planning on using a curriculum that focuses on population growth and sustainability designed by Population Education. His high school students would like to develop a sustainability learning center that can be used as hands on educational tool for the school. This gardening area will be used to help our students better learn and engage with sustainability issues that are relevant to their lives and community. In the short term, we would like to build an area in the Baltimore Lab parking lot that includes a raised gardening bed, an aquaponics tilapia fish system, and a composter. Over the next few years we would like to add a small chicken coop, a hoop house, and power the aquaponics system through alternative energy.

3. Which area(s) does your project address?

- Water Conservation/Water Pollution Prevention
- Solid Waste Reduction
- Air Quality
- Habitat Restoration
- Healthy School Environment
- Structures for Environmental Learning

4. Our environmental science students along with their teacher, Ite Clary, are interested in motivating our school community to work with the Baltimore Energy Challenge to incorporate energy conservation into our projects.

Budget

$2,500 for Certified Maryland Green Schools

Category	*Items*	*Cost Total: $2,500*
Stream Investigations, Oh My!	***4*** *D –Frame Aquatic Nets* ***2*** *Student Grade Kick Net#100635* *https://wardsci.com/*	*$239.80* *$74.13*
Let's Talk about Trash!	*Consultation and workshops so we can build a bottle brick earth bench.*	*$680*
Urban Forest and Clean Air.	*"no idling" signs* Trees are covered by a partnership with the ***Baltimore Tree Trust.***	*$100*
Summer Capstone Project	*Total Cost for School Wide Outdoor Sustainability Learning Center* *Project Items:* *Border and Mulch* *Aquaponics System* *Raised Growing Bed* *Composter*	 *$126.61* *$739.30* *$460.96* *$79.20* *Total: $1,406.07*

Promotion *(Informing other students or members of your community about the project. Examples include flyers, banners, t-shirts, bumper stickers, and bulletin boards)*	*Covered by Baltimore Lab School.*	*$*
Recording and Reporting *(Documenting your work by print, photo, video and/or other means)*	*Covered by Baltimore Lab School.*	*$*
Training and Research *(Materials or other information resources, including **field trips** fees)*	*Partially covered by Baltimore Lab School and a grant from the **Chesapeake Bay Trust.***	*$*
Transportation *(Getting to and from events or sites needed to carry out the project)*	*Partially covered by a grant from the **Chesapeake Bay Trust** and Baltimore Lab School.*	*$*
Other *(If you expect other expenses, please describe them here)*	***Substitutes** are partially covered by a grant from the **Chesapeake Bay Trust** and the Baltimore Lab School.*	*$*
Total		*$2,500*