



## School Nominee Presentation Form

### ELIGIBILITY CERTIFICATIONS

#### School and District's Certifications

The signatures of the school principal and district superintendent (or equivalents) on the next page certify that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of their knowledge. *In no case is a private school required to make any certification with regard to the public school district in which it is located.*

1. The school has some configuration that includes grades Pre-K-12.
2. The school has been evaluated and selected from among schools within the Nominating Authority's jurisdiction, based on high achievement in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental education.
3. Neither the nominated public school nor its public school district is refusing the U.S. Department of Education Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a district wide compliance review. The Department of Defense Education Activity (DoDEA) is not subject to the jurisdiction of OCR. The nominated DoDEA schools, however, are subject to and in compliance with statutory and regulatory requirements to comply with Federal civil rights laws.
4. OCR has not issued a violation letter of findings to the public school district concluding that the nominated public school or the public school district as a whole has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan to remedy the violation.
5. The U.S. Department of Justice does not have a pending suit alleging that the public school or the public school district as a whole has violated one or more of the civil rights statutes or the Constitution's equal protection clause.
6. There are no findings of violations of the Individuals with Disabilities Education Act in a U.S. Department of Education monitoring report that apply to the public school or public school district in question; or if there are such findings, the state or public school district has corrected, or agreed to correct, the findings.
7. The school meets all applicable federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

### U.S. Department of Education Green Ribbon Schools 2015-2018

Public  Charter  Title I  Magnet  Private  Independent  Rural

Name of Principal: **Mrs. Christa Leon**

Official School Name: **Mayfair Laboratory School**

Official School Name Mailing Address: **9880 Hyacinth Avenue, Baton Rouge, LA 70810**

County: **East Baton Rouge**

State School Code Number \*: **017144**

Telephone: **225-761-7849**

Fax: **225-766-4507**

Web site/URL: **www.mayfairlaboratoryschool.com**

E-mail: **cleon@mayfairlabschool.com**

*\*Private Schools: If the information requested is not applicable, write N/A in the space*

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.

Christa Bordelon-Leon Date: **1/11/17**  
(Principal's Signature)

Name of Superintendent: **Mr. H Warren Drake, Jr.**

District Name: **East Baton Rouge Parish**



I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.

Date: 1/9/17

(Superintendent's Signature)

### Nominating Authority's Certifications

The signature by the Nominating Authority on this page certifies that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of the Authority's knowledge.

1. The school has some configuration that includes grades Pre-K-12.
2. The school is one of those overseen by the Nominating Authority which is highest achieving in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.
3. The school meets all applicable federal civil rights and federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

Name of Nominating Agency: **Louisiana Department of Education**

Name of Nominating Authority: **Ms. Lydia Hill**

(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

I have reviewed the information in this application and certify to the best of my knowledge that the school meets the provisions above.

Date: 1/29/2017

(Nominating Authority's Signature)

### SUMMARY AND DOCUMENTATION OF NOMINEE'S ACHIEVEMENTS

Provide a coherent summary that describes how your school is representative of your jurisdiction's highest achieving green school efforts. Summarize your strengths and accomplishments in all three Pillars. Then, include concrete examples for work in every Pillar and Element. Only schools that document progress in every Pillar and Element can be considered for this award.

### SUBMISSION

The nomination package, including the signed certifications and documentation of evaluation in the three Pillars should be converted to a PDF file and emailed to [green.ribbon.schools@ed.gov](mailto:green.ribbon.schools@ed.gov) according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509

Expiration Date: March 31, 2018

#### Public Burden Statement

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1860-0509. Public reporting burden for this collection of information is estimated to average 37 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The obligation to respond to this collection is required to obtain or retain benefit P.L. 107-110, Sec. 501, Innovative Programs and Parental Choice Provisions. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the U.S. Department of Education, 400 Maryland Ave., SW, Washington, DC 20202-4536 or email [ICDocketMgr@ed.gov](mailto:ICDocketMgr@ed.gov) and reference the OMB Control Number 1860-0509. Note: Please do not return the completed ED-Green Ribbon Schools application to this address.



## Louisiana Green Schools Application for Green Ribbon Schools

### School Contact Information

School Name: Mayfair Laboratory School

Street Address: 9880 Hyacinth Avenue

City: Baton Rouge

State: LA

Zip: 70810

Website: www.mayfairlabschool.com

Principal Name: Christa B. Leon

Principal Email Address: cleon@mayfairlabschool.com

Phone Number: 225-761-7849

Lead Applicant Name (if different): Tiffany L. May

Lead Applicant Email: tmay@mayfairlabschool.com

Phone Number: 225-761-7849

### School Information

<p>Level</p> <p><input type="checkbox"/> Early Learning Center</p> <p><input type="checkbox"/> Elementary (PK - 5 or 6)</p> <p><input checked="" type="checkbox"/> K - 8</p> <p><input type="checkbox"/> Middle (6 - 8 or 9)</p> <p><input type="checkbox"/> High (9 or 10 - 12)</p>	<p>School Type</p> <p><input checked="" type="checkbox"/> Public</p> <p><input type="checkbox"/> Private/Independent</p> <p><input type="checkbox"/> Charter</p> <p><input type="checkbox"/> Magnet</p>	<p>How would you describe your school?</p> <p><input checked="" type="checkbox"/> Urban</p> <p><input type="checkbox"/> Suburban</p> <p><input type="checkbox"/> Rural</p>	<p>District Name</p> <p><b>East Baton Rouge Parish</b></p> <p>Is your school in one of the largest 50 districts in the nation?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <hr/> <p>Total Enrolled: <b><u>347</u></b></p>
<p>Does your school serve 40% or more students from disadvantaged* households?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>% eligible for FRPL <b><u>67%</u></b></p> <p>% limited English proficient <b><u>38%</u></b></p> <p>Other measures</p>		<p>Graduation rate: <b><u>N/A</u></b></p> <p>Attendance rate: <b><u>95%</u></b></p>



## **Part II: Summary Narrative:**

---

Mayfair Laboratory School (MLS) is located in the heart of the East Baton Rouge Parish School System (EBRPSS) in Baton Rouge, Louisiana. MLS has a unique partnership with the University Laboratory School (ULS) located on the campus of Louisiana State University (LSU). Established in 2013 as a K-3 lab school, MLS created a plan to add a grade level each subsequent year through 8th grade by the year 2019. MLS is an academic magnet school that attracts students throughout the parish through a selective system. Our focus on environmental science and media arts/technology sets us apart from traditional magnet programs. MLS is home to 347 students in grades K through 6<sup>th</sup>, of which sixty seven percent (67%) qualify for free/reduced lunch. MLS is classified as a Title 1 school, and our student body is comprised of a diverse and eclectic mix of racial and ethnical cultures, making us a true melting pot in the heart of our city.

Benefits of our unique partnership with ULS include continued collaboration on all curriculum aspects. Through the use of Criterion Referenced Learning Guides, students are exposed to rigorous academics and activities that support, engage, and enhance the learning experience for every child. Although MLS's focus is on academics, children are educated through programs focused on social, physical, and emotional growth. Our ancillary classes include French, Library, Music and PE, and our middle school students have the option of either Video Production/Media Arts or Choir. Mayfair instills high academic standards, a great community atmosphere, outstanding public relations and successful collaborations between parents and teachers.

Our school is centered around the theme of environmental studies. In these few years of establishment we have taken great strides to become greener and to reduce our environmental impact. Our student-led projects have led to the establishment of programs for composting, recycling, and gardening. Students are growing various types of greens, vegetables and fruits throughout the year. We have created several outdoor learning spaces on our campus and our students have access to 30 garden beds. Our environmental studies classes have planted over 30 trees and shrubs this past year in an effort to add more indigenous plants to our campus. One of our gardens is a butterfly garden, which is located next to our library. For the first time at MLS our kindergarten classes were able to release monarch butterflies that hatched in our beds. In addition to our outdoor gardens, we have vertical Tower Gardens in our 5<sup>th</sup> grade science class. MLS students learn how to grow plants hydroponically and aeroponically. One of our main focus areas within our environmental studies program is sustainability. All of our MLS middle school students are currently enrolled in this class.

We have several energy conservation efforts in place. For example; our classrooms and restrooms are equipped with automatic lighting that shuts off after 15 minutes of inactivity. The faucets in the restrooms have motion sensors, which control the amount of water that flows with each use. MLS has outdoor wings that allow us opportunities to turn off lights and A/C units and open our doors when the weather is nice to conserve electricity. These measures, along with



others, have enabled us to reduce our overall energy consumption by over 20% and greenhouse gas emissions by over 25%. We have twice earned EPA's Energy Star award for our conservation efforts. MLS also reduces waste through innovative use of Google Documents and a one-to-one laptop program. Together, these have helped to reduce our paper use by 40%.

From the chemicals used on campus to our extracurricular activities, MLS takes the health and wellness of its students and staff seriously, and has put into place several measures to support it. The school's integrated pest management plan eliminates student exposure to pesticides, while our school gardens only use organic pesticides that have been made by the students using only natural ingredients. Additionally, 75% of the commercial products on campus have been certified by EcoLab as environmentally friendly.

Our school has partnerships with the LSU Ag Center, Scotts Miracle-Gro Company, Trader Joe's, Louisiana East Girl Scouts and our parish 4-H Club Extension. Our community partners and parents provide volunteer hours, materials, and monetary donations to aid in our conservation efforts, health initiatives, and environmental studies program.

Mayfair has proven its dedication in providing its students with an incomparable academic experience and we have high expectations in becoming a U.S. Department of Education Green Ribbon School. Our goal is to continue to grow the minds of our children and to allow them to nurture our environment in return.

### **Part III: Documentation of State Evaluation of District Nominee**

---

#### **Pillar I: Reduced Environmental Impact and Costs**

##### *Element IA: Energy*

Mayfair Elementary was built in 1962, renovated in 2007 and in 2013 became Mayfair Laboratory School. Our building area is comprised of 43,014 square feet located on 14.23 acres in the heart of Baton Rouge. Since our opening 3 years ago, our students and staff have worked diligently to reduce our environmental impacts and costs. Collectively we have reduced our overall energy consumption by 20.5% from June 2014 through June 2016. Aramark, our facility manager and servicer, monitors the energy and water consumption on the campuses and facilities in our district by Metrix and EPA ENERGY STAR Portfolio Manager. Aramark noted that Mayfair has demonstrated a reduction in Greenhouse Gas emissions from June 2014 through June 2016 by 7.2 percent. The initial GHG emissions rate (MT eCO<sub>2</sub>/person) in 2014 was 1.85 MT eCO<sub>2</sub>/person and in June 2016 was calculated at 1.37 MT eCO<sub>2</sub>/person. Mayfair Laboratory School earned the Energy Star award for superior energy performance in 2014 and 2016. Buildings that earn this award use 35 percent less energy and generate 35 percent less greenhouse gases than similar buildings across the nation.



We have upgraded our lighting fixtures throughout our buildings on campus to reduce electricity consumption. In addition, we replaced the older fluorescent bulbs with cooler and more efficient GE Ecolux® fluorescent bulbs. All of our Ecolux® fluorescent lamps pass the EPA Toxicity Characteristic Leaching Procedure (TCLP) test. According to GE, the TCLP test characterizes fluorescent lamp waste as either hazardous or non-hazardous for the purpose of disposal. Ecolux® lamps use an exclusive material design that helps to prevent the small amount of mercury in the lamp from forming mercury compounds which may leach into groundwater after lamp disposal. MLS classrooms receive extensive natural light through the various windows throughout the buildings, thus allowing teachers to substitute electricity for natural sunlight on sunny days. We encourage all of our teachers to reduce their use of their AC units on cooler days. We ask that they open windows and doors, allowing fresh air to circulate throughout their classrooms. Aramark provided signs to our environmental studies class to put on all of the light switches throughout the school. These signs serve as a reminder to turn the lights off when leaving the room. Our motto is “Help Keep Costs Down: Turn off lights, computers, and other equipment when leaving.” In addition to these helpful reminders, our school lighting automatically shuts off in any room, including restrooms, when there is 15 minutes of inactivity. Some of our energy saving implementations include the installation of energy efficient printers, copiers, and fax machines that automatically power down when not in use. All of our computers are equipped with timers that automatically shut down at night. This is controlled by an online system. Aramark checks our air conditioner filters on a bi-monthly basis to ensure that the air quality our students and faculty receive is healthy. This helps our AC units run more efficiently and economically. Aramark documents all regularly scheduled maintenance and records are maintained on our school site. Thermostats in the classrooms are remotely controlled so that excess energy is not consumed. Our cafeteria ventilation hoods are also checked each semester and are professionally cleaned regularly.

### *Element IB: Water and Grounds*

All of our bathroom faucets are equipped with automatic sensors to limit excess water use. Our school garden area has rain barrels to catch water that is used to water our plants. We selected plant varieties that are native to Louisiana and drought tolerant. All of our buildings are equipped with rain gutters that help with runoff and limit the amount of mold and mildew growth. Our students have access to clean drinking water throughout campus. The quality of water provided by the Baton Rouge Water Company is considered one of the best in the country and requires no filtration. This company has continually surpassed water-quality standards and in its 18th quality report has received no violations. According to the 2015 Water Quality Report to Consumers, the following was stated in reference to Baton Rouge Water Company, “The Baton Rouge Water Company operates 98 ground water wells completed in the various sands of the Southern Hills aquifer system which underlie our service area. Water from these sands is of excellent quality with a natural low hardness concentration and is not subject to surface water influences.”



Our campus has large open areas with various trees and a large field of grass. We have an open area playground that is home to many native plant species, such as oak trees, fruit-bearing trees and our beautiful pecan trees. We have several garden areas, with the largest being in the open courtyard between the cafeteria and lower school wing. All of the plants in our gardens and flowerbeds are organically grown. The students in the MLS environmental science class work to create organic pesticides using natural ingredients such as onion and garlic sprays as well as natural oils such as neem and orange. Our students use natural fertilizers for our garden which come from our school compost bin. In addition, MLS students gather pine straw for mulch and ground covering for use in our raised beds. It is taught and strongly emphasized that no chemicals are to be used in our garden area. The LSU Department of Agriculture has been extremely helpful with our gardening program by giving suggestions for our seasonal gardens and providing soil and seeds for our gardens. Our garden area has a 50 gallon rain barrel which allows us to collect rainwater for irrigation. In Louisiana our annual rainfall average is 59.42 inches which equates to 20.2 more inches of rain than the national average (39.17 inches). The Baton Rouge area has had an average rainfall of 60.65 inches over the last 30 years. This is 55% more than the average nationwide. This also allows us to use less water on our grounds. We have plans to add a pond area with a natural filtrations system to our grounds in the 2017-2018 school year. This area will also provide food, water, and shelter to Louisiana animal and fish species. We are continuously looking for ways to make our campus ecologically beneficial to the areas around the perimeter of our campus.

#### *Element IC: Waste*

Mayfair has gone green with Google! Our path to becoming a paperless campus began last school year when all of our teachers and support staff were trained by our certified Google trainer on how to use the Google platform and create online Google classrooms. Many of our teachers received Level 1 or 2 Google certification(s) at the end of the training. All of our teachers in grades 3-6 have online Google classrooms where they post digital assignments. Students have access to homework assignments, class projects, in class assignments, and upon completion can turn them in using the Google platform. MLS has nearly zero waste as all middle school teachers use Google classroom to communicate with students, parents and the administration allowing immediate feedback. Students complete assignments digitally which has helped to further reduced our paper waste. On most days, there is no paper in the waste bins for the custodians to dispose of at the end of the day. Our bathrooms have hand dryers in place of paper towels. This has helped to reduce the amount of waste on our campus. MLS has a 1:1 Chromebook student ratio in our 5th and 6th grade classrooms. Due to the use of Chromebooks and Google classrooms, we have reduced our overall school printing and paper use by 40% according to office records. By using Google for Education Apps, our students are more attuned to becoming greener and reducing waste on a daily basis. Mrs. Christa Leon, our principal no longer prints out meeting agendas or weekly ledgers. All communications are shared with her staff by using Google. These are perfect examples of environmentalism at all levels at MLS.



Since its inception in 2014, our recycling program has recycled approximately 9 cubic yards of paper, roughly 468 pounds per cubic yard. Our 6th grade students, along with our Video Production instructor, have also established an ink cartridge recycling program. Our students collect ink cartridges on campus and accept donations from the community.

#### *Element ID: Alternative Transportation*

Our student population is currently 347 students in grades K-6. 43% of our students are carpool, 54 % ride the bus, and 3% walk or ride bicycles. The area of the city in which they live determines the number of students who are carpool or bus riders. This is unavoidable in most cases as MLS is a magnet school and students from the entire city who meet the rigorous requirements can attend. Our carpool staff encourages “no idling” in the carpool lanes, however the efficient movement of both lanes leaves little time for vehicles to idle. We are able to move vehicles through the line in an efficient manner by using an online program, Silent Dismissal, which allows our staff to remotely send for students via iPad or iPhone. Some parents arrive an hour before dismissal and utilize our seating areas and gardens throughout our campus. The garden areas have a walking path and seating for parents and students visit before going home.

## **Pillar II: Improve the health and wellness of students and staff**

#### *Element IIA: Environmental Health*

To ensure the improvement of health and wellness for our students our district has partnered with ECOLAB to provide environmentally friendly commercial products. Seventy five percent (75%) of the commercial products used at MLS are environmentally certified. These products are stored in a designated area away from the student population. Any products used in our elementary and middle school science classrooms are secured in a designated area within the science lab. Our school strictly adheres to the safety procedures outlined for science teachers by NSTA’s Safety Advisory Board. The information provided by the NSTA is based on legal safety standards and better professional practices.

East Baton Rouge School System does not expose students to pesticides. Pesticides are only used on the perimeters’ of the campus when students are not present. Our district’s pest control management policy meets all state and federal regulation. Only the least toxic pesticides, herbicides, and rodent eradication methods are used on campuses when necessary. The most commonly used pesticide is for fire ant reduction. Our district keeps detailed records of all inspections and treatments.

MLS students’ health and well-being are a priority. We have a variety of gardens located around campus as well as hydroponic tower gardens in our fifth grade classrooms. Only safe, organic pesticides are used in these garden areas. The MLS 6th grade environmental studies students create their own pesticides using natural ingredients such as onion, garlic, cayenne, neem oil, orange oil, and diatomaceous earth. Organic pesticides are used sparingly and only when there is a noticeable pest infestation.





### *Element IIB: Nutrition and Fitness*

In the last 20 years, childhood has moved indoors. Research by the University of Michigan shows that the average American child spends as little as 30 minutes per day outdoors. This shift has profoundly affected our nation's kids. Obesity rates among children has more than doubled in the last two decades. Furthermore, the U.S. has become the largest consumer of ADHD medications. Our teachers realize that outdoor play and learning experiences have a positive impact on student health and well-being. Therefore, many of our teachers conduct their classes outside in natural settings when the weather is appropriate. We give students many opportunities for outdoor learning through our gardening program as well. Our school has outdoor wings, so students are able to enjoy the garden areas as they transition from their core classes to their ancillary classes and to the cafeteria.

Louisiana mandates 150+ minutes of physical education per week in grades K-8. Our students in grades K-5 receive 150 minutes per week and in grade 6 they receive 250 minutes. Our upper and lower physical education classes spend the majority of their time outdoors where they play organized sports such as kickball, basketball, and softball. When classes are held music is almost always incorporated and the kids are in constant movement the entire class period.

Mayfair students enjoy visits from "BREC on the Geaux" during the school year. BREC on the Geaux is a traveling recreation program developed by the Recreation and Park Commission for the Parish of East Baton Rouge. The program is designed to combat obesity and provide recreational activities in our parish's socioeconomically deprived communities. The program is operated from two 14-foot trucks loaded with a variety of equipment and games for all ages. Our students enjoy playing sports, running through obstacle courses, and jumping and climbing around in inflatable gyms.

Additionally, each year our school participates in Louisiana Body Walk. This program is designed to involve kindergarten through fifth grade students in learning the skills and choices for a healthy lifestyle. Children learn about the importance of good nutrition choices and being physically active through interactive activities. Body Walk consists of a 35-foot by 45-foot enclosed walk-through exhibit representing the human body. Classroom activities are provided for use before and after the students' walk through the exhibit. Every student receives a take-home activity book for them to read with their families and a list of additional nutrition education resources. At each of the Body Walk station a volunteer presenter, usually a teacher or parent, engages the students in a five-minute activity focused on healthy choices. In addition, students have the opportunity to meet the OrganWise Guys and become familiar with their nutrition message, "Be Smart from the Inside Out." As a result of Body Walk, students learn about healthy behaviors and practice new skills. They also learn about the digestive system and the importance of physical activity for overall good health. Healthy eating and physical activity awareness is raised among all who attend. This includes parents, school personnel and the community.

Mayfair also has a swim team and offers swimming lessons in the spring. Students in grades 5th and 6th who are advanced swimmers may join the MLS swim team for competition. This year our swim team, comprised of 5 girls and 8



boys, finished 10th out of 23 teams in the Capital City Championship Swim Meet. This was a great achievement since it was our school's first year of competing. We held a pep rally, complete with a poster contest, teacher versus swimmer relay and a cheer aloud contest to help guide them to victory. We garnered support from parents, members of our school community, members of the school board, news media and the LSU Swim Team. We offer activities year round to keep our students active and healthy.

*Element IIB (cont.): Coordinated School Health, Mental Health, School Climate, and Safety*

We have staff available on campus to meet students' needs, both physically and emotionally, with a guidance counselor available full-time for students and parents. She conducts K-5 classes in the areas of bullying prevention, drug and alcohol abuse awareness, as well as stress reduction and methods for dealing with test anxiety. She has an open door policy and students may request visits with her as needed. MLS receives weekly visits from a representative of the ICARE program. ICARE provides prevention education to our school in the areas of alcohol, tobacco, drugs, violence, and crisis response and management. We have a nurse available on campus, through Health Centers in Schools, who provides first-aid treatments, as well as regular vision and hearing screenings. As a bonus to our students, Health Centers in Schools provides no-cost flu immunizations to students whose parents opt-in for at school immunization. Students may freely visit the nurse any time they have a health concern.

All of our MLS fifth grade students participate in the D.A.R.E. program sponsored by the EBR Sheriff's Department each year. The D.A.R.E. Program is at the forefront of substance abuse prevention education in our district. MLS students are proud to participate in this program which teaches them about the dangers of drugs and alcohol use and the violence which often accompanies it. At the completion of the program, students who successfully complete the required activities and attend the regularly scheduled classes are recognized at the end of the year graduation ceremony.

### **Pillar III: Effective Environmental and Sustainability Education**

*Pillar IIIA: Interdisciplinary Learning*

All magnet schools in our district have a "magnet theme." MLS's middle school theme is "environmental studies." We enjoy teaching our students the concept of sustainability. Our outdoor classroom areas allow students to take an active role in the maintenance of the school grounds and promote environmental awareness. Students who are exposed to environmental programs and gardening are more likely to care for the environment, make healthier food choices and live healthier lifestyles no matter where they live. We've created a "Green Team" consisting of students from our environmental studies classes, teachers and parent volunteers, as well as community organizations such as Louisiana Green Schools, LSU Ag Center, Girl Scouts, 4-H, and Louisiana East Girl Scouts. Our environmental program has become to focal point of our campus. Our outdoor learning areas and gardens are interdisciplinary, supporting writing, literature, science, math, horticulture, and environmental awareness.



Mayfair students have had the opportunity to experience gardening since our doors opened in 2013. We are fortunate to have Mrs. Baldwin, a Master Gardener, as a part of our staff. She has been a Master Garden Coordinator for over 50 years with extensive knowledge of gardening in many areas. Mrs. Baldwin has also been a 4-H coordinator for over 25 years. Her 4-H members created and cared for our first school garden which consisted of four 3' x 12' raised beds. In addition, Mrs. Baldwin is the coordinator over local Agricultural Extension Programs. She attends the annual Master Gardener training provided by the 4-H organization for member leaders.

Ms. Tiffany May, MLS's Environmental Studies instructor has expanded our gardens and native tree planting throughout our campus in one short year. She has developed and created strategic garden beds throughout the campus for various types of vegetation growth. She has added in excess of twenty six beds totaling 30 raised garden beds throughout the campus. Her newly added 26 cedar garden beds have been producing vegetation since the early fall. Ms. May has many years of experience in gardening and care for the environment as she grew up on her family's produce farm in Washington Parish. Ms. May and Mrs. Baldwin worked closely together to plan the new garden areas and develop the curriculum for the Environmental Studies course. Our students benefit greatly from having such knowledgeable staff instruct them.

Our fifth grade science students are reaping the benefits of agricultural education using Tower Gardens in the classroom. Our fifth grade class here at Mayfair is one of only two classes in the district with Tower Gardens. We were able to secure the Tower Gardens through a generous grant from Whole Foods Market. Our fifth grade teacher wrote the grant with the hope of being able to teach her students to be urban and to promote healthier food choices. Her expectations for the gardens were surpassed once she realized all of the lessons that could be integrated through the use of the indoor gardens. Tower Gardens use aeroponic and hydroponic technologies and compared to soil gardening increase yields by up to 30%. The fifth grade students compare plant growth in the towers to the same plants that are growing in our outdoor garden beds. They chart the data and share their discoveries with the 6th grade environmental studies classes. The math and science integration has led to higher student engagement. It lends itself to project based learning as students monitor and chart plant growth all year long without the worry of outdoor elements or planting seasons. It encourages physical activity, cooperative learning, and teamwork. Our students enjoy learning how to grow their own healthy, sustainable produce using the aeroponic technology. We are actively encouraging our students to grow their own food. They take responsibility for their crops. These kids will soon be the decision-makers of the 21st century, and will be faced with serious choices on managing our future supplies and quality of water, air, and soil. We've armed them with the knowledge and skills that will enable them to make healthier choices and informed decisions. Students benefit from learning where their food comes from and enjoy the tasty harvests. They can also take the excess produce home to share with their families. We plan to have a "Mayfair Market" in the future in which students can sell the produce from the Tower Gardens and outdoor gardens to their families and the community. We are planning to have the market ready by the fall semester of 2017.



MLS is the only middle school in our district that offers an environmental studies course developed from the high school AP environmental science course. Our students are exposed to the same rigorous curriculum and activities taught in a high school course. The curriculum for this program was developed using the Louisiana Comprehensive Curriculum standards for high school environmental science. The material was modified to meet sixth through eighth grade science grade level expectations. Middle school students learn about sustainability, environmental issues regionally, nationally and globally, conservation, and the protection of biodiversity. The students are responsible for the maintenance and upkeep of all garden areas. They check and maintain the soil balance and research native plants for their garden beds. Students also reference the guides published by the LSU Ag Center before every planting season and choose drought tolerant, hardy plant varieties so that water can be conserved. The students are actively engaged in all aspects of the beautification process of our campus grounds through, the planting of several flowerbeds and over 30 trees throughout campus. They are responsible for the compost bin near the middle school building and for collecting recyclables throughout campus. The sixth grade environmental studies class participated in a cross-curricular research activity with the world history class. They created an environmental science timeline and examined human impact on the environment since the time of the hunter-gatherer to present day. They charted the human impact of each group and were amazed to find out that early man had both negative and positive impacts on the environment. The sixth graders created posters raising awareness for urban gardening techniques such as using raised garden beds, vertical Tower Gardens, and square foot gardening. They displayed information on composting and outlined items that are compostable and non-compostable.

### *Element IIIB: STEM Content, Knowledge, and Skills*

MLS incorporates STEM and environmental education in grades K-6 which is aligned to Common Core and Louisiana Content Standards. In the three years since its inception, Mayfair has made tremendous strides in the area of environmental education. Our students at all grade levels are exposed to environmental education activities, immersed in project based learning, and participate in real world STEM activities. Our magnet focus for our new middle school is Environmental Studies and Digital Media Arts. Students are taught civic skills and have opportunities to learn from scientists who are actively working in environmental careers. We have visits from soil scientists and graduate students from the Agriculture Departments at both Southern University and Louisiana State University in Baton Rouge.

- Our kindergarten students gather plant growth data and chart it in their classrooms. They tend to the butterfly garden located near the library and hatch Monarch butterfly eggs to be released onto the milkweed plants there. They develop a better understanding of the butterfly life cycle and also learn how our garden crops are dependent upon animal pollinators such as the Monarch. They grow milkweed plants in their classrooms and later transplant them to the butterfly garden.
- The first graders examine soil in different areas of our campus and draw conclusions on the best areas to plant new shrubs and trees. They record evidence of plant and animals present in our schoolyard environment. They



journal and discuss the biotic and abiotic factors found in the soil collected and identify the characteristics of each. As they explore and categorize plant and animal species they learn more about biodiversity.

- Second grade classes focus on creating sustainable habitats in their classrooms (fish, hermit crabs, tadpoles). They compare the life cycle of their tadpoles with the life cycle of the monarch butterflies hatched in kindergarten and share their findings. They examine the plant structures and compare similarities and differences of a variety of seed plants. In addition, students are able to describe the inherited characteristics of living things.
- Fourth grade students learn about resource management. They examine the interrelationships of clean water, land, and air to the success of populations. They focus on Louisiana environments. They evaluate the effectiveness of natural resource management and protection in our state. They are able to use what they have learned when they visit Ocean Commotion at LSU hosted by the Louisiana Sea Grant College program. Our students look forward to this every fall. Students are given the opportunity to learn more about the products of the sea and coast. This deepens their knowledge and puts emphasis on why it is important to preserve and protect our coastal region. They learn how much of Louisiana's economy depends on these products.

Our goal this year has been to incorporate more engineering practices into our daily lessons. The middle school team has created a program to encourage this called, "Get Caught Engineering." Our video production students will visit math and science classes looking for photos and videos of students actively engaged in STEM activities. Teachers can also invite the students to document their lessons. The classes "caught" using engineering and design practices are featured in the campus news and their photos posted on the school's website and social media pages. Our principal features those teachers and students who are caught teaching and applying engineering principles. We use this program as an incentive for teachers to use more STEM activities.

In the spring we will host our Family STEM Night. This event is not only entertaining, but also an educational way to get students and their families excited about exploring solutions to engineering problems, solving math equations, and investigating science phenomena. Our STEM night connects families with professional engineers and scientists in our community and raises awareness about these various careers. It is an engaging evening of hands on math and science activities. Families are introduced to the engineering design process and act as a team of "STEMists" as they complete the tasks together. While our Family STEM night is all about fun, our students and parents benefit from the quality time spent together while exploring, creating, designing and building things.