



## 2018-2019 School Nominee Presentation Form

### ELIGIBILITY CERTIFICATIONS

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#### 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.

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### U.S. Department of Education Green Ribbon Schools

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Public  Charter  Title I  Magnet  Private  Independent  Rural

**Name of Principal:** Mr. James E. Smith, Sr.

**Official School Name:** Brookstown Middle School

**Official School Name Mailing Address:** 4375 E. Brookstown Drive

**County:** East Baton Rouge

**State School Code Number \*:** 087



**Telephone:** (225) 355-6556

**Fax:** (225) 355-6503

**Web site/URL:** N.A.

**E-mail:** jsmith@ebrschools.org

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

James E. Smith Sr.  
(Principal's Signature)

Date: 1/29/19

**Name of Superintendent:** Mr. Warren Drake

**District Name:** East Baton Rouge Parish School System

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

Warren Drake  
(Superintendent's Signature)

Date: 2/7/2019

**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. Breigh Rhodes

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

Breigh Rhodes  
(Nominating Authority's Signature)

Date: 2/12/2019



## SUBMISSION

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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 [bgautreau@lsu.edu](mailto:bgautreau@lsu.edu) according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509

Expiration Date: March 31, 2021

### **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.

## School Contact Information

**School Name:** Brookstown Middle School

**Street Address:** 4375 E. Brookstown Drive

**City:** Baton Rouge

**State:** Louisiana

**Zip:** 70805

**Principal Name:** James E. Smith, Sr.

**Principal Email Address:** [jsmith2@ebrschools.org](mailto:jsmith2@ebrschools.org)

**Phone Number:** (225) 355-6556

**Lead Applicant Name:** Lauraleigh Eddleman

**Position/Role:** Aquaponics Teacher

**Lead Applicant Email:** [imarler@ebrschools.org](mailto:imarler@ebrschools.org)

**Phone Number:** (225) 355-6556

## School Information

<p><b>Level</b></p> <p><input type="checkbox"/> Early Learning Center</p> <p><input type="checkbox"/> Elementary (PK-5 or 6)</p> <p><input type="checkbox"/> K-8</p> <p><input checked="" type="checkbox"/> Middle (6-8 or 9)</p> <p><input type="checkbox"/> High (9 or 10-12)</p>	<p><b>School Type</b></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><b>How would you describe your school?</b></p> <p><input checked="" type="checkbox"/> Urban</p> <p><input type="checkbox"/> Suburban</p> <p><input type="checkbox"/> Rural</p>	<p><b>District Name</b></p> <p>East Baton Rouge Parish School System</p> <p><b>Is your school in one of the largest 50 districts in the nation?</b></p> <p><input type="checkbox"/> Yes     <input checked="" type="checkbox"/> No</p> <hr/> <p><b>Total Enrolled:</b></p> <p style="text-align: center;">184 students</p>
<p><b>Does your school serve 40% or more students from disadvantaged households?</b></p> <p><input checked="" type="checkbox"/> Yes     <input type="checkbox"/> No</p>	<p>100% of our students are eligible for FRPL              83% of our students are identified as Economically Disadvantaged              0.01% of our students limited English proficient</p> <p><b>Other measures:</b>              16.32% of our students are Special Education Students              83.68% of our students are Regular Education Students              96% of our students are African American              2% of our students are Hispanic              2% of our students are Caucasian</p> <p><b>Attendance rate:</b> 88.8%</p>		

## **Part I: Summary Narrative**

Brookstown Middle School is an urban school located in North Baton Rouge, and is part of the East Baton Rouge Parish School System. Brookstown Middle School (BMS) is a non-magnet, public, neighborhood school. It is home to 184 students in grades 6<sup>th</sup>-8<sup>th</sup>. One hundred percent (100%) qualify for free/reduced lunch. BMS is a Title I school. The student body is 96% African American, 2% Hispanic, and 2% Caucasian. Eighty-three percent (83%) of the students are identified as economically disadvantaged.

Brookstown works with numerous community partners to collaborate on curriculum and support its sustainability initiatives. Some of these partnerships include We Produce Grads, which has provided funding for the aquaponics program. ExxonMobil has also provided funding and sent employees to the school to help run the labs on some weekends and work with the students on product branding, while the LSU School of Veterinary Medicine has provided the catfish for our labs. Students gain exposure to academics and activities that engage and enhance the learning experiences for our students.

Brookstown Middle School has made a conscious effort to reduce environmental impact and cost. This has been accomplished in numerous ways including: purchasing only ENERGY STAR equipment, creating a Green Team, and using cleaning products that are Green Seal certified. Brookstown Middle School has pledged to buy electronics and office equipment that have received an ENERGY STAR label. The major school appliances, such as the faculty copier, school washing machine, school dryer, and refrigerator have ENERGY STAR labels. These initiatives have helped reduce energy consumption by 29% in the past three years and reduced greenhouse gas emissions by 27.3%. We have also reduced water consumption by 14% over the past three years. Brookstown Middle School utilizes sinks and handwashing stations with motion sensors and/or automatic timed water faucets. Water fountains require students to apply hand pressure to run. Outside water connections and valves are kept locked except when in use, and contain supervisory switches. Brookstown utilizes an Elkay water bottle refill station accessible to students, faculty, and staff. We have also made concerted efforts to reduce the amount of paper used at the school. All classes have moved to a paperless model, using Chromebooks to replace textbooks and assignments for students.

Brookstown Middle School has designated a Green Team comprised of students, faculty members, and parents/guardians. The team goals are to positively impact our environment by reducing resources which saves money, create a healthier learning environment, and provide tools for environmental education. The green team has sponsored recycling drives for items such as BMS sweatshirts and bottle caps. Another project from the Green Team is Green Week. Green Week involves teachers focusing lessons in their subject on an environmental theme.

The goal of Brookstown Middle School is to nourish the whole child, which includes teaching them critical thinking skills and core content as well as improving their physical and mental health and wellness. Forty-six percent of our students are enrolled in nutrition classes that teach students about portion size, dietary guidelines, and the physical and

mental problems that can be associated with poor dietary choices and lack of exercise. All students are enrolled in physical education or JROTC, which provide physical and outdoor activity to students. These classes participate in the National Fitness Award Program and Presidential Fitness Program. Students and faculty play together, with organized events such as the student/faculty basketball and volleyball games supporting activity together.

Nutrition is also supported with the school's aquaponics program. During the 2017-2018 school year, students harvested 21 different types of lettuce plants/lettuce variations from the aquaponics program, resulting in over 120 pounds of lettuce grown and served to students in our school cafeteria, guests at school functions, school board members, and EBR parish staff and faculty members. During the first semester of the 2018-2019 school year, we harvested over 140 pounds of leaf lettuce, providing fresh, nutritious meals to students.

Our ancillary classes include Aquaponics I and II, Hydroponics, Career Exploration, Junior Cadet Corps, Health, Food and Nutrition, Marketing, Digital Media, Speech, Keyboarding, Journey to Careers, Art, and PE. Our school is centered around Green Concepts, including Aquaponics and Hydroponics. Brookstown's Aquaponics Program is the first Middle School Aquaponics Program in the State of Louisiana. In the past few years, we have taken great strides toward becoming greener and reducing our environmental impact. Our student-led projects include construction of their own school flower garden, which is a quiet spot to enjoy nature, aquaponics system, hydroponics system, and expanding recycling to include school sweatshirts, coats, and bottle caps.

Aquaponics is a sustainable method of raising both fish and vegetables. This type of indoor farming grows substantially more food with less water, land and labor than traditional agriculture. This form of agriculture combines raising fish in tanks (recirculating aquaculture) with soilless plant culture (hydroponics). In aquaponics, the nutrient-rich water from raising fish provides a natural fertilizer for the plants and the plants help to purify the water for the fish. Food grown using aquaponics is free of pesticides, herbicides and chemical fertilizers. Aquaponics can be used to sustainably raise fresh fish and vegetables for a family, and has been used to feed the school community.

Students take ownership of the aquaponics program, and their labs. Students research and select the crops grown, water quality, effects of pollution on water, plant nutrition requirements, fish nutrition and health, and environmental requirements for sustainability, crop diseases, fish diseases, growing mediums and components of a successful aquaponics system. Each class has a testing manager who assigns and oversees water quality testing and a communications/media manager who maintains an aquaponics website, takes photographs and videos, edits the videos, and submits a weekly "AquaChat" which highlights their achievements, success, and any issues encountered in the lab. The CO or chief Operations Manager oversees all management positions and maintains biosecurity and lab safety, and meets and greets lab visitors. The Systems Manager ensures that the clarifiers and rooms are clean and all Standard Operational Procedures for the aquaponics systems are followed daily. The Botanist is

responsible for overseeing all harvesting, planting, transplanting, measuring and weighing, observing, and documentation procedures involving the plants (including cafeteria delivery and scheduling). The Zoologist is responsible for overseeing all activities that involve the fish, ranging from calculation food requirements to weighing to harvesting the fish when they are ready. The Testing Analyzer oversees all water quality testing and ensures that all data is properly recorded, all calculations are done correctly, all testing is completed, and that inventory of these materials is kept up-to-date.

The Aquaponics program promotes STEM interest, confidence in STEM skills (working in teams, putting things together, solving problems, using different technologies and tools; thinking of new and better ways of doing things,) and enhances students' value of and access to STEM Careers. This class focuses on real-world issues, applies rigorous Math and Science in context, immerses students in hands-on activities, utilizes open-ended exploration guided by the engineering design process, allows for student creativity and choice, and involves students in productive teamwork and leadership skills. Currently, 34% of the entire student body is enrolled in the aquaponics program, while 40% are enrolled in the hydroponics program.

Brookstown Middle is dedicated to environmental sustainability, human health, student and staff wellness, and sustainability in academics. We are clearly committed to sustainability for the long-term.

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

### Element 1A: Energy

East Baton Rouge District has a plan that is evaluated by the Facilities Management Department to provide a physical environment conducive to the educational process for students, faculty, and staff of the East Baton Rouge Parish School System. This plan addresses classroom additions and renovations, facility modifications and renovations, and HVAC Maintenance Services. The HVAC Maintenance Services "will not only alleviate the future cost for major air handling and chiller replacements, but it will also provide energy savings through the method of more efficient controls. It will provide an improved and more consistent delivery of services, which will result in fewer disruptions to the educational process."

Brookstown Middle School has reduced their overall energy consumption by more than 29% from 2015 through 2018. This is calculated in Metrix tracking software by Aramark and through EPA Energy Star's portfolio manager. Energy consumption reductions have resulted in a 27.3% reduction in greenhouse gas emissions from 6/2015 to 6/2018. This rate was calculated using data from the Metrix software, EPA Energy Star's portfolio manager and using EPA's greenhouse gas equivalencies calculator to convert electric/gas consumption into greenhouse gas emissions. This reduction amount is simply the reduced fossil fuel consumption of the year 6/2018 compared to the year ending 6/2015.

Our initial greenhouse gas (GHG) emissions rate (metric tons of eCO<sub>2</sub> per person) was

3.11 MT eCO<sub>2</sub>/person for the year ending in 6/2015. This rate was calculated using data from the Metrix software, EPA Energy Star's portfolio manager and using EPA's greenhouse gas equivalencies calculator to convert electric/gas consumption into greenhouse gas emissions. Brookstown's current GHG emissions rate (metric tons of eCO<sub>2</sub> per person) is 2.26 MT eCO<sub>2</sub>/person for the year ending in 6/2018. This rate was also calculated using data from the Metrix software, EPA Energy Star's portfolio manager and using EPA's greenhouse gas equivalencies calculator to convert electric/gas consumption into greenhouse gas emissions.

Brookstown has achieved reductions in energy usage and CO<sub>2</sub> emissions through a combination of facility upgrades and environmentally friendly practices implemented on campus. These renovations and practices include:

- Replaced 80% efficient atmospheric boiler with 95% efficient high efficiency condensing boiler
- Replaced constant-flow fan coil units with variable-flow air handling units and zoned variable-air-volume terminal boxes Also replaced single-speed blower motors and starter controls with variable-speed motors and starter controls
- Renovation to include more energy-efficient windows, doors, and insulation
- Brookstown Middle School has pledged to buy electronics and office equipment that have received an ENERGY STAR label. The major school appliances, such as the faculty copier, school washing machine, school dryer, and refrigerator have ENERGY STAR labels.
- LED GE T8 Bulbs are used in all classrooms. They are rated to last 3600 hours or 16 year life and are mercury free.
- Each room, office, classroom, restroom, food serving area, gym, and hallway is equipped with lighting/occupancy motion sensors.
- Temperature of classrooms and buildings is controlled by the district. Air and heating is turned off from 4PM-6AM Mondays-Fridays, and all weekends and holidays.
- All computer screens, smart boards, and technology screens turn off after 2 minutes of non-use.
- Teachers are limited to 1,000 paper-copies per year.

#### Element 1B: Water and Grounds

Brookstown Middle School has reduced their overall water consumption by 14% from 2015 through 2018. This is calculated in Metrix tracking software by Aramark and through EPA Energy Star's portfolio manager. Sinks and handwashing stations are on motion sensors and/or automatic timed water faucets. Water fountains require students to apply hand pressure to run. Outside water connections and valves are locked except when in use, and contain supervised valves. Brookstown utilizes an Elkay water bottle refill station accessible to students, faculty, and staff. Restrooms feature high-powered hand dryers and low/flush option toilets. Additionally, Brookstown's Green Team and Aramark Services (contracted by the school District) both monitor and report leak detection.

Brookstown currently has a hydroponics lab and two aquaponics labs. Waste water from

the aquaponics lab is used to germinate seeds and seedlings in all of the labs. Waste water is also used to replace water loss in the hydroponics systems.

East Baton Rouge Parish Schools Administrative Director of facility, Larry Munson, monitors potential threats and contaminants. All tests to date have been negative. Brookstown Middle School's water source was tested for lead and all tests were negative.

Brookstown Middle School has an outdoor flower garden that is water-efficient and regionally appropriate. Furthermore, landscaping in front of the school catches storm water runoff and reduces impermeable surfaces. Flower gardens and landscaping utilize mulching to reduce water consumption. Another source of pride are our large oak trees that assist in shading classrooms and buildings and also help to prevent standing rain water.

### Element 1C: Waste

Brookstown has made significant efforts to reduce the amount of waste produced on campus, including the complete elimination of all hazardous waste.

Our school has implemented a green cleaning custodial standard, SpaceCare. In addition, 80% of daily cleaning products are either green cleaning (Glance, Stride, Crew from Diversey) or blue cleaning (MultiSurface, MultiMicro 200 from Orbio) certified by Green Seal or ISSA.

Recycling is another of our core initiatives to help reduce waste. On the campus, we have recycling programs for ink cartridges and bottle caps. We have also installed an Elkay water dispenser in the gym so water bottles can be refilled, cutting down on plastic waste. Our cafeteria trays, while disposable, are recycled daily by cafeteria staff. Two large outdoor bins are dedicated to single-stream recycling. Posters and boxes are recycled by Brookstown Middle faculty and staff, and we use recycled newspaper-print bulletin paper to line bulletin/display boards

Brookstown Middle has converted to paperless classrooms. Student textbooks have been removed from all classrooms. The library also incorporates e-books. Teachers provide assignments via technology—Google Apps for Education, Nearpod, Go Guardian, etc. All students are issued their own Chromebooks and cloud Accounts with unlimited storage. Brookstown also fosters parent/guardian communication through automated phone call-outs, social media sites, and emails. The EBR school system employs an inter-office transportation system which utilizes envelopes and file folders that are used multiple times instead of being discarded.

Brookstown Middle only uses Georgia-Pacific Spectrum copy paper- "Certified Chain of Custody... Sustainable Forestry Initiative." The only colored copy paper bought and used is Astrobright brand colored paper which is "FSC certified for the mark of responsible forestry." Brookstown uses 100% chlorine-free office/classroom paper content. In addition, school posters and classroom posters are laminated for protection and to ensure longer lifespan.

## Element 1D: Alternative Transportation

A large percentage of our students use alternative forms of transportation such as bus riding (63%) and walking (21%). Sixteen percent of our students carpool to/from school. These percentages are calculated by EBR transportation data and were verified via student surveys and faculty observations. Five buses transport students to/from school.

Brookstown Middle School has designated carpool stalls and a no idling policy for both cars and school buses. Vehicle loading/unloading areas for both cars and buses are at least 25 feet from all building air-intakes (doors and window.) Buses utilize a different entrance and exit from that of car riders and walkers. Pedestrians are supported by volunteers are at crosswalks near the school with school signs posted, and school zones and speed limits are enforced.

Athletic events are scheduled by the EBR Athletic Director of Middle Schools on the same day and at the same location for both male and female teams so that teams travel together to maintain optimal school bus fleet efficiency. School-wide field trips utilize EBR buses, and transportation can only take place within the parish. Buses are seated with maximum student capacity.

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

The goal of our school is to nourish the whole child, which includes teaching them critical thinking skills and core content as well as improving their physical and mental health and wellness. We have accomplished this by offering nutrition classes, allowing play at break time daily as well as offering extracurricular physical activities, and utilizing our guidance and I-CARE counselors to provide help with mental and emotional issues. We are encouraging students to take these new skills into their communities to help their neighborhood become a greener space as well as help their families overall health and wellness.

## Element IIA: Environmental Health

HVAC systems are monitored and run with efficiency and student health, including asthma triggers, in mind. Ventilation systems are filtered using high-efficiency American AirFilter PerfectPleat Merv 8 filters. Temperature of classrooms and buildings is controlled by the district. Air and heating is turned off from 4PM-6AM Mondays-Fridays, and all weekends and holidays. All classroom temperatures are kept 72-76° Fahrenheit when students are on in classrooms. Students are not seated in direct sunlight and indoor humidity is kept between 40-52%. Ceiling vents are not obstructed, and there are no signs of mold/mildew.

East Baton Rouge Parish Schools implements an Integrated Pest Management Plan. At Brookstown, Orkin Pest Control maintains inside buildings while Bayou Cajun maintains areas where food is served/housed. Grounds crews address outside environments (i.e. ants). All companies contracted have pest certifications and this information is reported yearly to the Louisiana Department of Agriculture. According to this plan, contractors

address the issues when students are not on campus.

EBR and Brookstown follow the United States Environmental Protection Agency's (EPA) Green Cleaning Products and Practice, and Brookstown also follows the Green Clean Schools – Healthy Schools Campaign. Routine cleaning is done when the building is unoccupied, product inventory is maintained and copies of safety data sheets are kept, and product labels are read and followed. Products are inaccessible to students, are fragrance free, and meet Safer Choice Standards and Criteria.

EBR and Brookstown also follow the EPA Tools for Schools Criteria. Water is poured into floor drains at least once a week, leaks are reported and fixed, ceiling tiles and walls are free of leaks, and spills are promptly cleaned up.

Environmental health is also supported through an array of initiatives designed to minimize the spread of environmental contaminants and communicable diseases. EBR Food service workers undergo district and national training on procedures for handling and preparing food, and Brookstown Cafeteria Staff use the National Food Service Management Institutes HACCP- Based Standard Operating Procedures for cleaning and sanitizing food contact surfaces to prevent foodborne illness.

All classrooms are dusted regularly and free of clutter. Trash is removed daily, rooms are free of pests and vermin, and no scented air fresheners are used in classrooms. Brookstown implements walk-off mats, a HEPA vacuum cleaner, microfiber cloths and mops, and energy saving floor care machines. Smoking is prohibited on campus. Elemental mercury is not on campus and purchasing it is prohibited.

### Element IIB: Nutrition and Fitness

The Aquaponics Program at Brookstown supports student health and wellness with the fresh lettuce and catfish that it produces. The lettuce produced by the program is used in the school cafeteria and served to students. Students are more eager and willing to consume vegetables they know they have helped to produce. When special programs are held on campus, the lettuce is also used to serve our guests. Student representatives from the program participated in a panel at the Farm to School Conference in New Orleans.

The success of the aquaponics program has led us to begin a hydroponics program. The hydroponics program allows students the opportunity to grow even more fruits and vegetables to share with the school community than the aquaponics system.

Students helped to design and build the lab, which will help them gain the skills needed to recreate hydroponics systems in their own communities and homes. It is our hope that this program will help to nurture a health-conscious culture in North Baton Rouge and as a model green space for the rest of the city to emulate. As evidence of our success to date, the Mayor of Baton Rouge has toured our labs and was inspired to help create a mobile farmer's market in North Baton Rouge.

A “Reading/De-stress” seating area is available in the library for students during break time to read silently. As a school, we offer nutrition classes to our students. In fact, 80 (46%) of our students are currently enrolled in these nutrition courses. These classes teach students about the physical and mental problems that can be associated with poor dietary choices and lack of exercise. In addition, students learn about portion size and the dietary guidelines suggested for people of varying ages. Students use this information as well as their knowledge of reading nutrition labels on foods found at the grocery store to plan healthy menus for themselves and their families.

All students are also required to take either physical education or Junior Cadet Corps (JROTC for middle school) for approximately 155 minutes per week. Both of these courses stress the importance of physical activity and provide outlets to make sure that students are involved in some type of physical activity. Junior Cadet Corps practices physical fitness and at the end of the year competes in physical basic training type challenges against other programs in the district. Additionally, the Junior Cadet Program participates in the National Fitness Award Program, School Fitness Challenges, Cadet Fitness Challenges, and Presidential Youth Fitness Program. The Junior Cadet Corps spend one class period per week outdoors doing physical fitness or drill practice while physical education classes complete the majority of units (70%) outside (weather permitting). Physical education classes have used the President’s Physical Fitness Challenge as a measure for progress as students complete it at the start and end of the school year. All Coaches have completed the Center for Disease Control’s Heads-Up Concussion Training.

Each day, students are given time after lunch to go outside. During this break, students are provided with basketballs, footballs, and Frisbees to play with. Monday through Thursday, every student is provided with a fresh fruit or vegetable on their way to this break as part of our Healthy Snacks Program. Often you will find students racing each other in the back field.

You will find staff members taking this break time to walk laps around the outdoor basketball court and students will sometimes join. As incentives for students, the school also hosts events such as the student/faculty basketball game and the student/faculty volleyball game. These events allow all members of the school community to exercise, have fun, and improve the school climate and culture. In addition, the school has several extracurricular sports including cheerleading, dance, football, volleyball, basketball, track, and softball.

Students are encouraged to participate in these activities to build pride in their school, to maintain physical health and also to provide alternatives to destructive behavior found in the neighborhood.

#### Element II B: Coordinated School Health, Mental Health, School Climate, and Safety

Our school has a full-time guidance counselor on staff. As part of our school culture and discipline matrix, students with repetitive minor behavior issues are referred to our

guidance counselor. She has the ability to help students deal with stress, bullying, home issues, and peer relationship issues. If students need more extensive counseling, our district has a program called I-CARE. These counselors often work with students and guardians to resolve issues and can refer families to outside counseling and other needed resources. The district's department of exceptional student services also has social workers who meet with qualifying students.

At the start of each school year, students are provided with two weeks of anti-bullying lessons. During this time, students learn the definition of bullying as well as cyber bullying. Students complete a variety of activities including role play to insure each has an understanding of bullying and the impact it may have on those being bullied. Through health courses, Monday Morning Affirmation, and guest speakers, anti-bullying is revisited throughout the year. We also have bullying contracts for use with students.

The School Guidance Counselor incorporates a cyberbullying prevention workshop with students. She monitors bullying contracts; performs weekly Tier 3 PBIS check-ins with identified students; conducts parent meetings and parent contact during reported instances.

A school nurse is on campus one day each week to check in on any students referred to her by staff. Flu Vaccinations are offered to students each year through the School Health Services.

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

Brookstown has developed a cutting-edge aquaponics program that engages students in environmental, sustainability, and STEM education. This program has received extensive coverage from local and social media since its inception, and is a model for engaging students in environmental and sustainability focused STEM education. Forty percent of the student body directly participates in the aquaponics program.

Aquaponics is a sustainable method of raising both fish and vegetables. This type of indoor farming grows substantially more food with less water, land and labor than traditional agriculture. Aquaponics is a resilient farming system that provides growers, consumers, and the environment with better health and nutrition properties. This form of agriculture combines raising fish in tanks (recirculating aquaculture) with soilless plant culture (hydroponics). In aquaponics, the nutrient-rich water from raising fish provides a natural fertilizer for the plants and the plants help to purify the water for the fish. Aquaponics is a completely natural process that mimics lakes, ponds, rivers and waterways on Earth. The only input into an aquaponics system is fish food. The fish eat the food and excrete waste, which beneficial bacteria convert to nutrients that the plants use to grow. In consuming these nutrients, the plants help to purify the water. Without the use of herbicides, pesticides or other chemicals in the aquaponics system, the fish and plants are healthier and safer to grow and eat.

During the 2017-2018 school year, students harvested 21 different types of lettuce

plants/lettuce variations. Over 80 pounds of lettuce was grown was served to students in our school cafeteria, guests at school functions, school board members, and EBR parish staff and faculty members. During the first semester of the 2018-2019 school year, we harvested 140 pounds of leaf lettuce that includes different seed varieties. Students lead the program and research crops grown, water quality, effects of pollution on water, plant nutrition requirements, fish nutrition and health, environmental requirements for sustainability, crop diseases, fish diseases, growing media and components of a successful aquaponics system.

Students take ownership of their labs. Each class has a testing manager who assigns and oversees water quality testing and a communications/media manager who maintains an aquaponics website, takes photographs and videos, edits the videos, and submits a weekly "AquaChat" which highlights their achievements, success, and any issues encountered in the lab. The CO or chief Operations Manager oversees all management positions and maintains biosecurity and lab safety, and meets and greets lab visitors. The Systems Manager ensures that the clarifiers and rooms are clean and all Standard Operational Procedures for the aquaponics systems are followed daily. The Botanist is responsible for overseeing all harvesting, planting, transplanting, measuring and weighing, observing, and documentation procedures involving the plants (including cafeteria delivery and scheduling). The Zoologist is responsible for overseeing all activities that involve the fish, ranging from calculation food requirements to weighing to harvesting the fish when they are ready. The Testing Analyzer oversees all water quality testing and ensures that all data is properly recorded, all calculations are done correctly, all testing is completed, and that inventory of these materials is kept up-to-date. All lab managers report directly to the teacher.

The aquaponics program immerses members in student-generated research investigations. It promotes STEM interest, confidence in STEM skills (working in teams, putting things together, solving problems, using different technologies and tools, thinking of new and better ways of doing things) and enhances students' value of and access to STEM Careers. This class focuses on real-world issues, applies rigorous math and science in context, immerses students in hands-on activities, utilizes open-ended exploration guided by the engineering design process, allows for student creativity and choice, and involves students in productive teamwork and leadership skills.

Brookstown aquaponics students designed and constructed the operational nursery system utilized in the lab for the seedlings, and are currently designing and building a new aquaponics system. Aquaponics incorporates a "sense of ownership" for our school, increases STEM interest, and establishes a school climate and culture with a focus on increasing test scores, STEM content and leadership skills, forming and maintaining community partnerships, decreasing student absences, and decreasing discipline issues.

Additionally, Brookstown has a hydroponics system with a 102-plant holding capacity. Brookstown students designed and built this system with the assistance of a retired Baton Rouge Fire Department Chief. Instead of chemicals, wastewater from the

aquaponics lab was used during the 2017-2018 school year. Forty percent of the student population are enrolled in the hydroponics program.

The aquaponics program has afforded numerous opportunities to build community. For example, the ExxonMobile Branding Department has partnered with the aquaponics program and presented branding and marketing lessons to students. Collaboration led to a school-wide Branding Competition to label the lettuce grown in the labs. Another example of collaboration includes Tony's Seafood, which process the catfish harvested from the aquaponics program for students to eat. Tony's seafood commented that it was some of the best catfish they had seen.

Other community partners include Stephens-Point University, LSU Agricultural Center, Foundation for East Baton Rouge Schools, East Baton Rouge Food and Nutrition Services, Baton Rouge City Fire Department, LSU Department of Counseling Education, Nelson-Pade, Capital City Produce, We Produce grads, Wilson Foundation, Aramark, LSU School of Veterinary Medicine, Arizona University, LSU College of Education, Southern Louisiana University, Louisiana Department of Wildlife and Fisheries, The Walls Project, and Baton Rouge City STEM-Up program.

The aquaponics program has also afforded leadership development opportunities for our students as they present on their work to others. Some examples include the Food to School Conference Presentation in New Orleans, Region 4 Food Services Presentation in Houston, Texas, Louisiana Farm to School Conference participation, and presenting at the U.S. Green Building Council's Green Schools Symposium at Tulane University. Additional educational opportunities were found at the Lee High STEM competition and Baton Rouge Magnet High STEM competition. Our students have even assisted students from the Istrouma High Aquaponics Lab with running and maintaining their new aquaponics system. Many other schools and community groups have toured the lab and gained insight into starting hydroponics and/or aquaponics programs at their schools.

The aquaponics team are recognized as leaders on school campus as well. Aquaponics program students who master basic STEM skills, such as lab safety, biosecurity, science-processing skills, interpretation of data, metric conversions, and problem solving are invited to receive special lab coats at the White Coat Ceremony.

Brookstown students work to share their appreciation of the aquaponics program and nature to other students and campus visitors. Students maintain and operate three aquariums that are housed in the locations in the front building of the school. These are stocked with catfish and aquatic plants. Our students also maintain the school flower garden.

Environmental and sustainability education does not end with the aquaponics program. ELA teachers use environmental articles (i.e. Readworks and Readtheory) in their reading lessons when teaching reading and writing skills. Writing topics are assignment to students throughout the school year. In art class, students design posters to participate in the yearly EBR competition for Earth Day Campaigns and Save the Planet

Competition. The social studies curriculum includes units on the history of oils spills and their environmental impact, human and natural disasters affecting the environment and ecosystem, farming and agriculture.

The science curriculum includes environmental and sustainability-focused units on energy, food webs, ecosystems, coastal erosion and preservation, the water cycle, body systems, diseases, climate and weather, natural disasters, human impact on the environment, natural resources, renewable and nonrenewable resources, conservation of energy, plants and animals. Instruction is student-centered, and develops skills such as asking questions and defining problems, developing and using models, planning and carrying out investigations, analyzing and interpreting data, using mathematics and computational thinking, constructing explanations and designing solutions.

Brookstown's electives also support environmental and sustainability education. The Junior Cadet Corp has an environmental component that includes participation in community cleaning projects and environmental careers in the military are an area focus. The class also focus on social justice, critical thinking, problem solving, and leadership. The Speech Elective course integrates environmental debates in the class. (i.e. best recycling method, greenhouse gases and global warming), while the Marketing Class addresses environmental and green issues and how companies are implementing these issues when advertising. Health classes study pathogens, body systems, health pathways, food and nutrition, healthy lifestyles and healthy choices. First responder/Emergency Health Care study environmental safety, biosecurity, and health careers.

Brookstown Middle School has designated a Green Team comprised of students, faculty members, and parents/guardians. The team goals are to positively impact our environment by reducing resources which saves money, creating a healthier learning environment, and providing tools for environmental education. This team has met to plan green week and work on content lesson plans to share with the teachers.

Our teachers are also involved in environmental and sustainability education. This includes professional development on energy conservation and consumption, social justice and critical thinking, cooperative and collaborative classrooms, and technology integration. Teachers utilize paperless technology in every lesson, are all NearPod certified, and 90% are certified Google Educators. Teachers utilize team teaching strategies, interdisciplinary learning, and data sharing across content areas.

Brookstown has seen academic success due to our environmental initiatives and the hard work of faculty and students. Reading levels, math fluency skills, appreciation for STEM skills, and science processing and critical thinking skills have all increased.