Bellerive Elementary School, Creve Coeur, Missouri

School Contact Information

School Name: Bellerive Elementary	Street Address: 620 Rue de Fleur Dr.	
City: Creve Coeur	State: MO	Zip: 63141
Website: https://www.parkwayschools.net/bellerive	Facebook:	
Principal: Dr. Jami DeBosch	District: Parkway School District	
Principal Email: jdebosch@parkwayschools.net	Principal Phone: 314-415-6051	
Lead Applicant and Position (if different): Erik Lueders		
Lead Applicant Email: elueders@parkwayschools.net	Lead Applicant Phone: 314-415-8278	

School Characteristics

Level ( ) Early Learning Center (x) Elementary (PK - 5 or 6) ( ) K - 8 ( ) Middle (6 - 8 or 9) ( ) High (9 or 10 - 12)	School Type (x) Public ( ) Private/Independent ( ) Charter ( ) Magnet	How would you describe your school? ( ) Urban (x) Suburban ( ) Rural	Total Enrolled: 386 Graduation rate:N/A Attendance rate: 96%
Does your school serve 40% or more students from disadvantaged households? ( ) Yes (X) No			
% receiving FRPL: 26%	% limited English proficient: 5.1%	Other measures: 33% of students on an IEP, Title I school	

Summary Statement

Our mission at Bellerive is to "Grow Capable Learners… Inspire Lifetime Leaders." As a recognized "Leader In Me" Lighthouse School, we have developed the school culture and community to lead in our green schools efforts in many ways. A Leader In Me school is a whole school transformation process. It teaches 21st century leadership and life skills that help empower students to see that every child can be a leader. Our school received Lighthouse status in May 2015. This special distinction has only been awarded to 350 schools worldwide. We know our most effective method for reducing environmental impact, improving health, and delivering sustainability education has been through students discovering their strengths and using them to lead and serve the school and community.

Bellerive was one of the first Parkway schools to have fully implemented a cafeteria composting program that includes the use of compostable serviceware. In addition to minimizing our waste, we also have been working diligently to minimize our energy use. We have converted 100% of our indoor and outdoor lighting to LED. The indoor lighting is all controlled with vacancy sensors and outdoor lighting has motion sensing controls that dim the lights when there are no vehicles or people on the school grounds. Using a centralized PC power management program has cut our plug load. All HVAC and roofing improvements meet a minimum standard of ASHRAES's 50% Advanced Energy Design Guidelines for K12 Schools. The presence of a 25 kW solar array helps to provide more than 5% of the schools electricity needs. The results of all of these efforts have put Bellerive Energy Star Score at 92! This means Bellerive is within the top 8% of all schools as it relates to energy efficiency, which we feel is an impressive result for a fifty year old building.

Our work to save water includes retrofitting all faucets with 0.5 gallon per minute aerators. All of our toilets have been retrofitted with dual flush valves as well. For our garden program, we chose to utilize an indoor tower garden which recirculates water rather than an outdoor garden that requires frequent watering. We've even reduced our impact with regards to stormwater by renovating one of our parking lots with permeable pavement which allows stormwater to be absorbed into the ground rather than running off into the regions stormwater sewers.

The past few years, we have worked to beautify our school grounds, and work is underway to create an outdoor oasis. We have created an outdoor classroom in our courtyard, which includes a community mural. Within our grounds we have added lots of perennial plants with sections for Missouri native plant species. We have plans to expand on these areas in the near future.

As we work to create balance, we believe that students need to lead healthy lifestyles. We teach about healthy choices, exercising, and eating right. The presence of a garden bar allows students to eat fresh produce that helps fuel their day and physical education. The past few years we have had a yoga instructor come and work with teachers on how to embed mindfulness activities throughout the day. Each of our classrooms has a calming corner with sensory tools, fidgets, and more. Students are learning to regulate their emotions with strategies they will use for a lifetime.

We make sure to provide resources to families for health services as well. In partnering with Give Kids A Smile, we are able to provide free oral healthcare to students in need. We know that early health habits are essential to lifelong healthy living. We believe this focus has an important impact on our students' health and well-being.

We further foster healthy environments by using high efficiency, high quality MERV 8 filters to ensure the air inside the school is clean. Using no/low VOC paints and flooring materials keeps our air cleaner. Implementing green cleaning practices and integrated pest management practices minimizes the exposure that students and staff may have to irritating chemicals.

We know that students learn best when learning comes to life and they see real-world applications. We embrace teaching concepts and content through a cross curricular approach and incorporate outdoor learning experiences when possible. We allow for student choice and voice when it comes to what they want to learn about and how they will make their learning come alive. We strive to make more connections to how to be a responsible citizen through conserving, recycling, and making responsible and sustainable choices that impact others.

Through grade level service projects students learn about needs in the community and work to problem solve ways to support and address those needs. Each of our grade-levels organizes, plans and implements a service project. Several of the service projects work to reduce waste and educate others about the importance of recycling and composting anything that can't be reused. First Grade collects shoes for the Shoeman water project, which helps to provide shoes to those in less developed countries, while simultaneously funding the creation of clean water wells. Second Grade collects used books for a used book fair and donates the money to Ready Readers to help provide new books to students who may not have any. Third Grade collects gently used items for donation and reuse by the International Institute. They help refugees who are just acclimating to the United States. Fourth Grade has been collecting empty laundry detergent bottles to donate to New Hope so they can be refilled. Fifth Grade has made thousands of bean soup packets to help provide a healthy and nourishing meal for those who are hungry. Our goal is to teach students that we have a lot to be thankful for and can give back to others and save resources.

As a culminating project, we worked to collect and upcycle all of our used school supplies at the end of the school year. We donated thousands of supplies to students in Zambia who have less access to resources than we are fortunate to have. The students peeled broken crayons to be melted down to make new crayons, pencils were sharpened, and used note pages were recycled to make notebooks like new. Kids learned they can not only help make a difference in our community but for the world.

Our students have plans to collect more recycled goods through paper drives and grade-level competitions. We would like to continue to grow our partnerships within our community to expand our environmental impact.

As a school that focuses on creating leaders out of our students, we are exceptionally proud of our approach to demonstrate what we seek from our students. By setting and achieving far-reaching goals for reducing environmental impact and improving the wellness, students have noted and regularly demonstrate their leadership potential to make a positive difference in the world, even when no one is watching.

Cross Cutting Questions

1. Team

Jami DeBosch (Principal), Scott Davidson (Assistant Principal), Alexis Luecke (Instructional Coach), Dan Bredenkoetter (Math Facilitator), Debbie Kirby (Health Teacher/Green Team Facilitator), Katie Henderson (Orchestra Teacher/ Green Team Facilitator), Mike Bunton (Physical Education Teacher), John Fink (Physical Education Teacher), Darryl Bolden (Custodian), Eddie Current (Custodian), Caren Lochmann (Naturalist Facilitator), Susan Murray (Wellness Coordinator), Student Green Team Leaders, Student Naturalist Leaders, Erik Lueders (Director of Sustainability & Purchasing), Scott Bennett (Manager of Planning & Engineering), Juliette Travous (Manager of Environmental Services), Robin Wallin (Director of Health Services), Marlene Pfeiffer (Director of Nutrition Services), Erin Schulte (Coordinator of Guidance, Counseling, and Character Education)

2. Benchmarking

Bellerive Elementary has been benchmarking energy use utilizing Energy Star Portfolio Manager and has achieved an Energy Star score of 92. This time 10 years ago, the school was rated at a 20. At Bellerive there is tremendous administrative and student leadership as it relates to energy efficiency. Part of the school's Leader In Me training includes making individual students energy leaders. Recent HVAC upgrades meet at a minimum of ASHRAE's 50% Advanced Energy Design Guidelines.

3. Awards

- Energy Star Certification - EPA/DOE - 2016, 2017 (applied)
- Composting Award (district issued award to schools) - Parkway School District - 2016-2017
- Leader In Me Lighthouse School - 2015
- School District Scholarship Program ($20,000) - USGBC Center for Green Schools - 2015
- Jump Rope for Heart Award - Top 25 schools in Missouri award- 2015-2016,2016-2017. We have participated in Jump Rope for Heart since the 2010-2011 school year.
- Outstanding Small Organics Diversion Program Award (District Wide) - MO Recycling Association 2013
- Growing Green Award (District Wide) - USGBC MO Gateway Chapter - 2013
- Energy Star Leader Award 20% Reduction (District Wide) - EPA/DOE - 2013
- Energy Star Leader Award 10% Reduction (District Wide) - EPA/DOE - 2012
- School Recycling Award (District Wide) - American Forest & Paper Association - 2010
- Growing Green Award (District Wide) - USGBC MO Gateway Chapter - 2009

Since 1995, Parkway School District has received 13 grants totaling $353,000 from St. Louis County and St. Louis Jefferson Solid Waste Management District for recycling, waste minimization, and composting. These funds have allowed Bellerive Elementary to be among the leaders in the state with regards to recycling and composting. Bellerive Elementary was among the first schools in the entire St. Louis area to pilot commercial composting in 2012. Bellerive has also received over $9,500 in incentive funds from Ameren Missouri to make the school more energy efficient using LED lighting, occupancy sensors, PC power management, and vending misers. Another $50,000 was awarded for the installation of a 25 kW solar PV array. Bellerive was part of a larger district wide initiative to retrofit all exterior lighting to efficient LED fixtures. This was funded from the State of Missouri Department of Economic Development's Energy Loan Program.

The school received a grant to participate in the Leader In Me program. Leader In Me is Franklin Covey's whole school transformation process. It teachers 21st century leadership and life skills to students and creates a culture of student empowerment based on the idea that every child can be a leader. After only three years of teaching the Leader In Me principles in the building, Bellerive received the honor of becoming a Lighthouse School. There are 3,248 schools participating in Leader In Me and only 343 have been awarded Lighthouse status. This status means that Bellerive has created a well-rounded leadership model and culture. Students take on leadership roles such as Recycling Leader, Electricity Leader and students also create leadership groups focused on serving the school and community such as Naturalists Leaders and Green Team Leaders.

We are currently on a Green School Quest, which is the US Green Building Council - Missouri Gateway Chapter's project based competition for the 2017-2018 school year.

4. Goals - List one to three goals your school is planning on attempting over the next year.
1. Grow our community partnerships and collaborate with former students to lead initiatives to improve sustainability.
2. Plant, maintain and expand the use of the tower garden to provide healthier and locally grown options in our school cafe and greater community - such as the district's food pantry.
3. Increase amount of lessons connected to sustainability and wellness embedded in the curricula.

Pillar I: Reduced Environmental Impact and Costs

ENERGY

1. Energy STAR

If yes, what is your score? 92
If score is above a 75, have you applied for and received ENERGY STAR certification? Yes
Year(s): 2016, 2017

2. Energy Use

Baseline Year: 2011	Energy : 9,057.8 kBtu / student
Ending Year: 2017	Energy: 5,204.0 kBtu / student
	Reduced use: 3,853.8 kBtu / student
	% Reduction: 42.55 % kBtu / student
	% Reduction per Year: 7.09 % kBtu / student / year

Bellerive Elementary is a part of Energy Star's Portfolio Manager and actively tracks energy usage each month by inputting utility bill data into the software. In addition to Portfolio Manager, the school utilizes EnergyCAP which is a robust utility analysis software that is able to provide a higher level of insight into the school's energy usage, reduction, normalizing usage against weather, identifying the school's base load, among other important metrics. A summary report is generated and shared on a quarterly basis to help maintain awareness of the school's energy conservation efforts.

3. Greenhouse Gases - Can your school demonstrate a reduction in greenhouse gas (GHG) emissions?

Baseline Year: 2013	GHG Emissions: 1.78 MT CO2e / student
Ending Year: 2017	GHG Emissions: 1.05 MT CO2e / student
	Reduced GHG: 0.73 MT CO2e / student
	% Reduction: 41.01 % MT CO2e /student
	% Reduction per Year: 6.84 % MT CO2e / student / year

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4. **Renewable Energy**

On-site renewable energy generation: 5.26 %	Type: Solar PV
Purchased renewable energy: 0 %	Type: NA

Bellerive Elementary has a 25 kW Solar PV array on the roof. There is a monitor in the front lobby of the school that actively displays the energy production levels throughout each day. The monitor also has graphics illustrating the solar energy process for an educational opportunity for students, staff, and community members. In addition to the monitor, data generated about the solar array's production is available on the school's website for all community members.

5. Building

Year school was originally constructed: 1968 Total Building Area: 61,260 sq. ft?

While not a certification standard, we used the ASHRAE 50% Advanced Energy Design Guidelines for the renovation of the school's space. Installing high efficiency HVAC units, demand control ventilation, VAV boxes, increased insulation values, and LED lighting using IESNA lighting level guidelines. The school has been upgraded over the years with regards to the capital equipment and assets (HVAC, Flooring, Roofing, etc.) for their associated replacement cycles, but no major gut renovation or new addition work has been conducted in recent decades. When those upgrades happen, a variety of LEED related improvements (low/no VOC flooring and paints, recycling C&D materials, low flow plumbing fixtures) will take place .

WATER AND GROUNDS

6. Water Use

Baseline Year: 2013
Ending Year: 2017

Water Use (gal / student / year): 1,520.47
Water Use (gal / student / year): 1,355.70
Reduced Water Use:164.77 gal / student /year
Reduction: 10.84 % gal / student
Reduction per Year: 2.71 % gal / student / year
Reduction Domestic Water Use:10.84 %
Reduction Irrigation Water Use: NA

Bellerive Elementary is part of Parkway School District's portfolio within the Energy Star Portfolio Manager. Water bills are entered into this software as bills are received. The school does not have outdoor irrigation.

7. Water Efficient and Regionally Appropriate Landscaping (WERAL)

Total Area: 372,574 square feet WERAL: Area: 2,475 % WERAL: 0.6%

Water Efficient Plants: Miscanthus, Coneflower,
Regionally Appropriate Plants: Coneflower, Columbine, Ninebark, Red Cedar, Black Cherry, Maple, Pumpkin

There are several areas where vegetation has been planted across school grounds. Some areas have had Missouri native plants established to reduce erosion over a retaining wall. We have also made attempts at planting a pumpkin patch so students could learn about seasonally appropriate produce in the fall.

8. Alternate Water Sources

The school currently utilizes a tower garden inside the school that utilizes a form of hydroponics which continually recirculates water, thus reducing the need for regular watering if planted outside.

9. Runoff

We replaced a 5,694 square feet asphalt parking lot with a concrete permeable paver system and included an underground stormwater detention system using Stormtech chamber system with a total retained system volume of 6,673 cubic feet. Part of the retained stormwater is released through percolation into the subgrade below the system and any stormwater volume over the capacity of the percolation rate is discharge at a metered rate into the stormwater system.

10. Ecologically Beneficial Uses

Total Area: 372,574 square feet: EB Area: 46,684 SF; % EB Area 12.5%

While not owned by Bellerive, there is an adjacent meadow next to the school that is owned by a community member that Bellerive collaborates with and is regularly used for ecology lessons and an activity called the food chain game. There is also an outdoor classroom in our courtyard.

WASTE

11. Solid Waste

A - Monthly garbage service in cubic yards - 34.64
B - Monthly recycling volume in cubic yards - 69.28
C - Monthly compostable materials volume in cubic yards - 12.35
Recycling Rate = ((B + C) / (A + B + C) x 100) = 70.21
Monthly waste generated per person: 0.07 cubic yards per person

We have a water bottle filler and encourage students to bring reusable bottles. Students in grades 1-5 sort their lunch waste for recycling and composting in the cafeteria. Students collect breakfast trays from classrooms each morning for composting. Ninety percent of tableware used in schools are compostable including trays, individual serving containers and soup bowls. The utensils are recyclable but not compostable.

12. Hazardous Waste

How many gallons or lbs. does your school currently have of each of these classes of hazardous materials?
Flammable liquids : 0 Corrosive liquids: 0 Toxics: 0 Mercury: 0 Other: 0

Hazardous Materials are tracked, managed and disposed of through the district's Environmental Services Department (ESD). Waste materials, lab waste, and art waste, etc. are disposed of through licensed waste haulers and EPA permitted disposal sites. Science chemical inventories are kept at the school level and reviewed by the district's ESD.

Parkway has a mercury reduction program where mercury containing science and health equipment has been removed from the school and replaced with electronic equipment. The district's Environmental Services Department worked with the Missouri Department of Natural Resources to properly remove and dispose/recycle the mercury in this equipment.

13. **Green Cleaning**

Which green cleaning custodial standard is used? Green Cleaning Guidelines and Specifications for Schools, 2009, MO Department of Elementary and Secondary Education

What % of your products are certified? 51% if including floor finishers and sealers. 91% if excluding floor finishers and sealers

What specific 3rd party certified green cleaning product standard is used? Green Seal, EcoLogo, Design for the Environment, California Air Resources Board, Carpet and Rug Institute

14. **Electronic Waste**

All of our electronics including desktops, laptops, monitors, peripherals, projectors, batteries, phones, CRTs, light bulbs, ballasts, motors, among other equipment are repurposed or recycled at the end of their useful life. Items are either sold to the public at govdeals.com or recycled with a registered e-scrap recycling vendor.

TRANSPORTATION

15. Alternative Transportation

Bellerive Elementary utilizes school buses for student transportation. 83% of the total enrollment participate in this option. Our school bus fleet has completely phased out all older diesel engines that had higher emissions (model year 2007 and prior), participating in the EPA's Clean School Bus program. In addition, 39% of the district buses (40 out of 102) are fueled with compressed natural gas (CNG), a cleaner alternative to diesel.

16. Accommodations for alternative travelers

Bellerive students who reside within 1/2 mile of Bellerive Elementary, live in a designated walk zone and bus service is not provided and students are encouraged to walk to school. Bike racks are available for students who ride their bikes to school. Currently, there is a Walk To School day in the fall. Bellerive students and families meet off campus and walk to school together to promote healthy habits and reduce carbon emissions. We plan to increase the number of Walk To School days in the future.

PURCHASING

17. Paper

post-consumer recycled content paper: 100 %; paper from FSC forests: 0 %; chlorine-free paper: 35 %

All copy paper is 30% recycled content. All paper towels and toilet tissue are 100% recycled, Green Seal Certified, and processed chlorine free. At the end of each school year, we ask all staff to return unused paper to be used the following school year.

18. Food

Produce for the salad bar is 23% locally sourced. Foods that are 100% locally sourced are Basil, Beets, Corn, Black Berries, Cabbage (Green and Red), Cucumbers, Eggs, Mustard Greens, Peppers (Green, Red and Yellow), Tomatoes and Watermelon.

OVERALL ENVIRONMENTAL IMPACT

19. Environmental Impact Summary

Bellerive has taken many steps to reduce energy consumption throughout the building. Efforts combine student led initiatives to reduce energy use in class, retrofitting all lighting to LED and associated occupancy sensors, a 25 kW solar array, and utilization of the ASHRAE Advanced Energy Design Guidelines for all major capital improvement projects. The results of these efforts include energy reduction of over 42% and an EnergyStar score of 92. This means Bellerive is in the top 8% of all schools nationwide with regards to energy use.

We've also taken great strides at reducing our landfill waste. With the utilization of single stream recycling, composting, e-scrap recycling, and waste reduction efforts, we've been able to reduce our landfill trash to under 30% of our overall waste stream. We close the loop by buying recycled content paper products.

A program that we believe is distinctive is the use of our tower garden. The tower garden is a hydroponic system that allows students to grow produce indoors, year round. Produce is grown and right now is being used to educate students about healthy eating. In the future we're seeking to use the tower garden produce in our garden bar and to supply the district food pantry with fresh vegetables.

Pillar 2: Improve the health and wellness of students and staff

ENVIRONMENTAL HEALTH

1. Water Sources

Bellerive Elementary receives its water from the local utility, Missouri American Water, which samples and analyzes its water supply frequently for Clean Water Act contaminants. A parkway school district building is one of their testing sites where they collect their routine water samples that represents their larger water system.

2. **Drinking Water**

Bellerive has implemented a lead in drinking water program utilizing EPA's 3T's (Training, Testing, Telling) for Reducing Lead in Drinking Water in Schools Program. Where lead was greater than 15 ppb, remedial actions, such as replacing the faucet and piping occurred and the equipment was resampled.

3. **Moisture**

For controlling humidity, HVAC systems are checked along with sources of moisture from the roof, plumbing, exterior walls, etc. Personnel use moisture meters are used to check walls, ceilings, floors and furniture for excess moisture. The Environmental Services Department (ESD) has an IAQ complaint process for the schools to use for concerns. For monitoring and controlling mold, ESD investigates IAQ issues including signs of mold. Air quality readings including temperature, relative humidity, carbon monoxide and carbon dioxide are taken regularly. ESD works with maintenance and custodial to ensure proper cleanup and repair. Contractors may be used for mold removal and/or duct cleaning if a mold source is found.

4. Ventilation

For inspecting and maintaining the ventilation system, HVAC equipment is connected to a centralized buildings automation system that is actively reviewed to ensure proper operations. All equipment has a twice a year preventative maintenance program. All units are equipped with high efficiency air filters that are at a minimum of MERV 8 or 9 depending on filter type. Bellerive utilizes HVAC technicians to ensure all HVAC systems are operating and well ventilated per ASHRAE and St. Louis County standards. Carbon monoxide and carbon dioxide measurements are taken regularly. Larger spaces utilize CO2 sensors to identify when more fresh air is required and when energy can be saved by re-circulating conditioned air.

5. Airborne Contaminants

Fresh air intakes are located a minimum of 10 feet away from any vehicle areas or exhaust stacks per code requirements. All buses and maintenance vehicles participate in a no-idling policy and refer to St. Louis County Health Department ordinance 312.340 and Missouri State Regulation 10- CSR 10-5.385. All new paints, furnishings and floorings have low or no VOC content in order to reduce indoor air contaminants and prevent triggering asthma attacks.

6. Integrated Pest Management

Vol of your annual pesticide use (gal/student/year) - 0.0005 gal/student/year of chemical (non-diluted)

An on-staff licensed pest control technician is trained in IPM procedures. EPA restricted pesticides are not used. The district pest technician works with staff to reduce pest entry, food sources, and cleaning procedures. Staff complete annual training on IPM practices. The technician identifies pests. Staff keep the pest for inspection or take a photograph for identification. The Missouri Dept. of Agriculture and St. Louis Zoo Insect House have been used as a resource when needed. Work order systems are used to track monitoring, inspections and pest applications as well as standard preventative maintenance activities such bait stations, traps, and stinging insect inspections.

7. Chemical Management

Bellerive has a smoke free policy including e-cigarettes, which include the campus, district vehicles, and buses. Mercury containing equipment in classrooms, thermometers, barometers, psychrometers and blood pressure cuffs in the nurse's office were removed and disposed/recycled through the MD. If mercury equipment is discovered, the ESD is notified and it is removed from the building. All areas/rooms in the lower levels and/or that have contact with the ground have been tested for radon in conjunction with the Missouri Department of Health and Senior Services. Bellerive also has access to two electronic radon detectors that can be used to test for radon as needed and follow up purposes. Playground equipment made of CCA treated lumber was sealed until it was replaced with non-CCA equipment. The District ESD utilizes EPA's Tools for Schools for indoor air quality inspections and remedial actions if needed. All operations departments are involved in the IAQ process including ESD, maintenance, custodial, roofing and grounds.

NUTRITION AND FITNESS

8. Healthier US Schools

We are passionate about creating healthy well-rounded students. We currently participate in Jump Rope for Heart and have over sixty students who participate in Read, Right and Run. We currently do not participate in USDA's Healthier School Challenge. This is something we could explore in the future.

9. Healthy Foods

We work with our produce vendor to source as many salad bar items from locally sourced farms. This amounts to approximately 23% of our produce being locally sourced. We are in the process of getting approval to supply our garden bar with produce from the tower garden.

10. Fitness P.E. 120 minutes, % outdoor P.E. 35%

Primary level students participate in various tagging games on our field. Students play Frisbee Toss-N-Go, Muscle Builder, Sheep and Dogs and Bunny in the Garden. Some activities fulfill both physical education and health curriculum requirements. They also learn special awareness and boundaries preparing them for our intermediate level games, sports and activities. Intermediate level students play team sports such as soccer, softball, ultimate football, Frisbee Golf and fun games like Cone Zone, Pirates Treasure and our annual Halloween Scavenger Hunt. These units in the fall and the spring are, of course, weather dependent.

11. Outdoor Safety

Bellerive utilizes St. Louis Regional Clean Air Partnership's Air Quality Forecasts, a color coded system based on EPA's Air Quality Index. Outdoor activities are adjusted based on forecasts. Playgrounds are inspected annually by ESD's licensed inspector and weekly inspections are made by custodians. Teachers and custodians receive training in playground safety.

12. Outdoor Activity

Our 5th grade attends a low ropes course as a field trip. Twice a year we have a campus clean up where we plant new vegetation and weed our current landscaping. Our students and teachers practice mindfulness and when the weather's nice they will take their classes outside. In the spring we have the Gumball Challenge. Classrooms are challenged to pick up as many gumballs from Sweetgum trees as they can during their outdoor wellness time. We have over 60 students in grades K-5 participating in a Read, Right, Run before school club which promotes physical fitness and healthy living.

COORDINATED SCHOOL HEALTH PROGRAM

13. Health Education

Every student participates in health education. The health curriculum covers 20-24 lessons at each grade level and includes nutrition and outdoor safety. Students learn how to calculate BMI, plan nutritious meals, and learn about the transmission of bacteria and viruses. Students in 5th grade learn from the NCADA about the harms of alcohol and other drugs along with strategies to resist peer pressure. 4th grade students participate in a Safety Day sponsored by Bunge Corporation to learn about chemical, water, bike, fire safety, etc. .

14. Health Services

Michelle Osterholt BSN, RN is the school nurse at Bellerive. Services include addressing first aid and emergency care, as well as managing students' health conditions through direct nursing, medication and treatment administrations, and care. Other activities include flu vaccine clinics for students, staff and families, screenings for vision and hearing, and ensuring that students who need vision and health referrals have access to no/low cost options. She has facilitated the following staff development: EpiPen administration, CPR/First Aid/AED certification, Food Allergies and Choking for Cafeteria Staff. She provides staff consultation and referral support for student and staff emotional stressors.

15. Mental Health

Bellerive was part of the Alive and Well StL learning collaborative. The collaborative is a community-wide effort focused on reducing the impact of toxic stress and trauma. This supports the health and wellbeing of our school and community by helping us become trauma informed. Bellerive utilizes restorative practices to build

community, respond to student needs and offer support. Calming corners exist in every classroom to support students calming, sensory, and regulation needs. Mindfulness and breathing activities are taught to help students self-regulate. A Mindfulness Night was hosted to teach families about the brain, zones of regulation, yoga and to make sensory supports (glitter bottle, stress ball, etc.) Staff were trained by a yoga instructor on how to embed yoga techniques into the classroom.

16. Employee Wellness

Bellerive's Wellness Leader, Susan Murray, works in collaboration with the district to provide staff opportunities to promote health and wellness. Activities include yoga, stress management, and exercise classes for staff. She also hosts a walking club and promotes district wide biometric and cancer screening opportunities. We have offered The MIND Diet course for staff interested in improving their nutrition. Other district-wide wellness challenges are embraced to encourage nutrition and physical activity, including healthy cooking demonstrations, fitness rooms and personal training available to district staff. We have a salad Friday for staff to bring in items to share in creating a healthy lunch for all that wanted to participate.

17. Community

We partner with the Vision Van to provide students with vision screenings, eye exams, and prescription glasses. We also partner with Give Kids A Smile and provide students with free oral health care services. We work with Special Olympics to show that healthy living and athleticism is important and accessible for all. We have also partnered with Alive and Well STL in learning more about mental health.

18. Family

Bellerive hosts several events to engage and educate families. We host a Culture Night in the fall to bring all of our families together and learn about and celebrate the culture and diversity we have to offer. We host a mindfulness night to teach about the brain, healthy habits and calming strategies. We come together quarterly to clean up, beautify, and plant the grounds around the school. Families participate in our Walk To School event as we discuss the importance of staying active and finding ways to reduce pollutants. Parents and community members help facilitate and can participate in before school activities such as robotics, makerspace, equations, step club and more. We also include families and community members during Abilities Awareness day.

OVERALL HEALTH IMPACT

19. Health Summary

Habit 7 in the Leader in Me program is Sharpen the Saw. This habit is a mind, body and soul approach, which encourages finding balance. We believe that students need movement and also at times require breaks to refocus and refresh. In response to this belief we have instituted teaching mindfulness and calming strategies weekly, as well as providing a calming corner in every classroom that can be used at any time by all students. We have also brought in a yoga instructor to support our staff's self-care. Over the course of six weeks the instructor taught teachers' yoga moves that they could bring back and use with students. All grades utilize movement breaks daily when transitioning from one subject to another.

Goal setting exists at a building, grade level, classroom, and individual level. Whether this be around a personal goal such as being more active or eating more vegetables. Each of our students and staff have a leadership binder where goals are tracked and monitored. Staff and students personal goals often target leading a healthier lifestyle.

Supporting healthy habits goes beyond the school as we reach out to our greater community. Parents are invited to participate in events such as: Walk to School, Mindfulness Night, Culture Night, Leadership Day, Healthy Habit Training, Read,Right,Run events and more. These events happen almost monthly.

Pillar 3: Effective Environmental and Sustainability Education

CURRICULUM AND ASSESSMENT

1. Literacy Requirement - Does your school have an environmental or sustainability literacy requirement?

Embedded throughout our curriculum are opportunities for students to research websites, articles, news stories, and more about the environment and issues of sustainability. They analyze perspectives, develop arguments, and participate in discussion and present findings. They participate in debates, develop essays and presentations calling their audience members to action to make changes that will impact our school, community or world. Topics include reducing our carbon footprint, better ways to reduce, reuse and recycle, and calling for a change in how we use our natural resources. Students are empowered to find their voice and use it to lead and create change.

2. Environment and Sustainability integrated into Lessons

Grade	Curriculum or Lesson	Subjects
K-5	Leader Loop. Students brainstorm ideas to reduce waste in their classroom. This allows students to collaborate and take ownership of the difference they can make in the world.	Communication and community building
1	Service Learning Project. Students promote and participate in the Shoeman Project collecting new and gently used shoes which keep shoes out of landfill, provide shoes to those in need, fund water projects in developing countries, and educate people about water sanitation, health and hygiene.	ELA: Speaking and listening skills. Math: counting, unitizing and Money. Social Studies: service learning and community outreach. Science: Engineering Problems
2	Service Learning Project. Students collect used books and host a used book fair. This project repurposes old books and the funds are donated to Ready Readers for children in low-income areas to increase a love to reading and learning. This addresses the need to reduce, reuse and recycle.	ELA: Speaking and listening skills Math: counting money, creating change. Social Studies: service learning and community outreach
3	Service Learning Project. Students hold a drive to collect items to donate the International Institute to support refugees and families in need. This addresses reusing items that are still able to have purpose, while helping the community.	Math: Graphing skills. Social Studies: Service learning and community outreach
4	Service Learning Project: Students ran a penny war campaign to raise money to support an animal at the St. Louis Zoo. Students created posters, presentations, commercials and counted the earnings and updated total graphs daily.	ELA: Speaking and listening skills, presentations. Math: money, unitizing, and graphing. Science: Wildlife conservation and awareness.
5	Service Learning Project. Students run a school wide bean soup drive to provide a nutritious meal for members of our community. They collect beans and spices and make bean soup mixes which are donated to a local food pantry. They collaborated with high school students to learn about food deserts and how they can address this inequity that exists.	ELA: Speaking and listening skills. Math: measuring, fractions, and unitizing. Social Studies: Economic resources, food deserts, and community service and outreach.

3. Assessments

Grade	Curriculum or Lesson Assessed	Assessment Tool - See Table Below for Proficiency
K	Living Things Unit	- Students go on a nature walk and study living things. - Students draw pictures and diagrams and label the needs of living things in their science notebook. -Observation, scoring guide and student self-reflection.
1	Weather Unit	-Students learn about different weather patterns around the world. -Students track weather patterns and create graphs and write their observations and hypotheses.
2	Soils Unit	-Students are able to learn hands on about soils and composting. - Students work to learn about different types of soil and then they analyze the soil in our area. Student learn how composting can help the environment. Student draw diagrams of compost piles and label each part.
3	Plant Growth and Development Unit	- Students draw a life cycle diagram of a Wisconsin Fast Plant and label each stage. They also plant and grow their own Wisconsin Fast plant and learn about the basic needs of plants. There is a multiple choice and short answer assessment at the end of the unit.
4	Science: Structures of Life and Water	Students study the structures of life and water as it relates to the environment. Students are assessed at the end of the unit. Students also choose a topic often related to the environment to collect research on the topic.
5	Environments Unit	- Consumer classification formative assessment. Multiple choice and constructed response end of unit assessment. - Students play a life cycle game that allows them to see the impact on food chains when a species population changes.

Scores for the percent of students on-track for each K-5 standard during this past trimester.

Grades	Understands grade level topics and concepts	Plans and carries out investigations	Analyzes and interprets information to construct evidence-based explanation
K-2	97%	99%	99%
3-5	91%	85%	93%

4. Environment and Sustainability as a context for STEM

Grade	**Curriculum or Lesson**	**STEM Standard**
K-5	Makerspace: Students use recycled materials to think critically and problem solve. They follow the engineer design process and work collaboratively to complete makerspace challenges.	Critical thinking, engineering design, collaborative problem solving, and technology
1	Organisms: students explore the similarities and differences between plants and animals. They observe living organisms and compare and contrast terrestrial and aquatic plants and animals.. Animal Research using print and digital materials:	Research, Science Technology, Science life cycle

	Students chose a habitat and learn about the various animals that live there. Then students pick one animal to learn about more in depth. They learn about their adaptations, special features, life cycle and impact on the environment.	
2	Soils: Students explore the properties of three soil components - sand, clay, and humus. Using the results they analyze their own local soil to draw conclusions about its composition. They will learn that composting is the process of recycling organic material and the role of worms in this transformation. Students will design a fair test and analyze evidence in order to answer an investigative question.	Matter and Energy, Earth and Human Activity
3	Rocks and Minerals: Determine unknown minerals. Students are given 12 unknown minerals and conduct different field tests such a light, streak, hardness, etc. to determine what type of mineral it is and then research if it is used in daily life and if so how. Students then learn about the abundance or scarcity of various minerals and their impact on the environment.	Critical Thinking, Science: Structures and Properties of Matter, and Earth and Human activity
4	Structures of Life: Animal research using print and digital materials. Students choose an animal and research and present their findings about animal status, special features, defense, where they fit on their habitat food chain, etc. They then study the status of the animal they researched and learn about how their animal impacts the environment and how the environmental impacts their animal.	Technology, Science: energy flow in organisms, biology, and natural resources, Earth and Human Activity
5	Context for Learning: Parks and Playgrounds. Students learned about multiplying fractions by designing a playground and deciding where to put a black top, green space and equipment.	Engineering Design, Number sense, Operations in fractions

5. Green Tech/Careers

Grade	Curriculum or Lesson	Green Technology/Career Pathway
K-5	Career Day (Last year we had over 35 presenters)	There are presenters from every career path (wildlife management, naturalist, marine biologist, research scientist, nutritionist, aerospace engineer, retail management, agriculture, soil, and crops scientist, energy engineer)
1	Shoeman Water Project Presentation: Water management, safety and sustainability	Nature Path, Building and Fixing Path, Health Path, Helping Path (fundraiser, ecologists, water engineer, public health, volunteerism)
2	Butterflies: Butterfly House habitat presentation	Nature Path (ecologists, Lepidopterist)
3	Geologist Presentation	Nature Path (geologist)
4	Water Unit: Water management and maintenance	Nature Path and Building and Fixing Path (water engineer, ecologist, conservationist, park ranger, sustainability)
5	Earth, Moon, Sun: Solar Power Lesson	Business Path, Building and Fixing Path/ Discuss uses for solar panels and solar energy products. (solar power engineer, electrician, conservationist)

6. A.P. Environmental Science - NA

PROFESSIONAL DEVELOPMENT

7. Certification

Certification	Grade (# Teachers) Year; Grade (# Teachers) Year:…
Leader In Me - Lighthouse School	K-5 Teachers Trained in 2014- 120 staff trained
Project Lead The Way	4th grade teacher - 1 staff trained
Green Classroom Professional (GCP)	District Personnel (1)
Certified Energy Manager (CEM)	District Personnel (1)
Leadership in Energy & Environmental Design Accredited Professional (LEED AP)	District Personnel (2)
Certified Industrial Hygienist (CIH)	District Personnel (1)

8. Workshops Attended

Workshops (Category 1, 2, or 3)	Grade (# Teachers) Year; Grade (# Teachers) Year
CPR Training (Category 1)	Support Staff- 20 teachers trained
Restorative Practices Training (Category 1 and 3)	K-5 and specialists - 30 staff trained
Trauma Informed Care Training (Category 1 and 3)	K-5 and support staff - 120 staff trained
Leader In Me Training (Category 3)	K-5 Teachers Trained in 2014- 120 staff trained
Growth Mindset Book Study (Category 3)	K-5 and specialists - 22 staff trained
Resilient Learner Book Study (Category 3)	K-5 and specialists - 30 staff trained
Trauma Informed Care Practices Book Study (Category 3)	K-5 and specialists - 30 staff trained
Envision Math Training (Category 3)	K-5 Teachers - 18 staff trained
Lucy Calkins Training (Category 3)	K-5 Teachers - 18 staff trained
Project Lead the Way	4th - 1 Staff Trained

9. Workshops and Lessons Provided

Workshops or Lessons	# Attendees
CPR Training	20
Mindfulness Night	100
Technology Night	44
Summer Reading	81
Habit Training	67
Leadership Day (covered student led learning on service projects, water tower garden, recycling	200

OUTDOOR LEARNING EXPERIENCES

10. Outdoor Learning

Grade	Outdoor Experience (Subject Standard)
K-5	Outdoor Earth Day scavenger hunt and Track Discussion (Sustainability, healthy environmental practices)
2	Field trip to the Butterfly House (Life Cycles)
3	Field trip to Weldon Springs (Food Chains and Food Webs and Plant Growth and Development) and a Field trip to Onondaga Caves (Rocks and Minerals)
4	Safety Day (Variety of topics presented on safety from water safety, electrically safety, to bike safety)
5	Field trip to the St. Louis Zoo (Environments)

11. Context & Community

Third grade students visit a park to observe food chains, food webs, and plant development. This trip reinforces the concepts learned in the classroom that relate to environmental sustainability. Students observe, document, discuss, and practice how to maintain a healthy and safe environment for its plant and animal inhabitants.

Safety day promotes healthy and safe living. It's an outdoor event that brings in civic organizations. Bunge, a local fire and police department, and Ameren UE, teach safety topics and the role they play in being healthy. Other experiences include field-trips to Weldon Springs, Onondaga Caves, the Butterfly House, etc.

COMMUNITY ENGAGEMENT

12. Community Engagement

Last year we worked with 10,000 Pencils. Students donated their used school supplies to students in Zambia. We collected over 40 boxes of supplies. Our upcycling allowed others to benefit from something that may have been thrown away. As part of the Green School Quest we are partnering with a local church to provide them with empty soap/squirt bottles. These bottles will be refilled and donated. We frequently serve the Humane Society through donations of blankets and towels, put on a used book fair, collect used shoes, etc. We love to teach students to give back to benefit others.

13. Partnerships

We cultivate and nurture community partnerships to promote empowerment. Abilities Awareness and Career Day are examples of events which bring in community members to teach students. For Abilities Awareness we brought in speakers to share about different physical and mental disabilities. During Career Day 35 presenters from various careers were present and students k-5 were able to rotate and learn from them.To promote healthy living we offer clubs like Read, Right, Run which over 60 students k-5 participate in. We also offer events such as Walk to School, Jump Rope for Heart, and Mindfulness Night. There are typically more than 75 families in attendance at these events. We believe in educating and empowering the whole child and their families.
We know that students need learning experiences outside of the school walls. Field trips allow for outdoor learning. The focus of these experiences is learning about the environment and the impact we can have on it.

OVERALL EDUCATION IMPACT

14. Education Summary

With MakerSpace, Leader Loop and Google Expeditions, our students engage with environmental issues while learning about math, communication arts and social studies as well as science. Our service learning projects also teach about environmental issues while integrating across subjects. This interdisciplinary approach helps students transfer what they learn in the classroom to real world situations. Learning goes beyond textbooks and students become real world problem solvers..

Through our LEAD time roles students' grade 3-5 are connecting with community members and high school leaders and using their passion to give back to our school and community. The Naturalist Leaders are planting and maintaining an indoor water garden. We are working with food services to get this locally produced and sustainable produce (bok choy, rainbow chard, lettuce, etc.) added to our garden bar and our district food pantry at least each trimester. Our Green Team Leaders are increasing the awareness of recycling and working to lead a community paper drive.

We value the importance of self-care and have Wellness Leaders in grades 3-5 and promote this work in their classrooms. We have used our learning from our collaboration with Alive and Well STL and partnership with Washington University to educate our families on social and emotional well-being and sensory supports.

MEDIA

15. Media - Submit up to 4 photos (with appropriate signed permissions) or up to 4 minutes of video content to illustrate your school's' efforts. Include a list with a brief description below for each item.

1. Tower Garden - Naturalist Leaders plant, maintain and harvest the water tower garden. We are working to get this produce added to our garden salad bar.
2. School Supplies Collection - 2. Students organized, promoted and ran a service project to collect school supplies to donate to other countries. Students learned about the importance of repurposing and recycling as well as supporting students in other countries.
3. Campus Planting - Students, staff and families work alongside each other to beautify, plant, and clean the campus.
4. Walk to School - Families participate in our Walk To School event and discuss importance of staying active and finding ways to reduce pollutants.