

U.S. DEPARTMENT OF EDUCATION  
**GreenRibbonSchools**  
**School Nominee Presentation Form**

**ELIGIBILITY CERTIFICATIONS**

**School and District's Certifications**

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

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

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

Public  Charter  Title I  Magnet  Private  Independent  Rural

Name of Principal: Ms. Brenna Warrell; Mr. Brian Sinchak, President

(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in the official records)

Official School Name: Lakewood Catholic Academy

(As it should appear on an award)

Official School Name Mailing Address: 14808 Lake Avenue, Lakewood, Ohio 44107

(If address is P.O. Box, also include street address.)

County: Cuyahoga State: Ohio School Code Number \*: N/A

Telephone: 216-521-0559 Fax: 216-521-0515

Web site/URL: <http://www.lakewoodcatholicacademy.com> E-mail: [bwarrell@lcasaints.com](mailto:bwarrell@lcasaints.com)

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

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

*Brenna Warrell*

Date: 1/19/17

(Principal's Signature)



Name of Superintendent: Mr. Christopher Knight  
(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in official records)

District Name: Diocese of Cleveland

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

Christopher Knight Date: 1/19/17

(Superintendent’s Signature)

**Nominating Authority’s Certifications**

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

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

Name of Nominating Agency: Ohio Department of Education

Name of Nominating Authority: Charlotte Jones-Ward  
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

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

Charlotte Jones-Ward Date: January 30, 2017

(Nominating Authority’s Signature)

**SUMMARY AND DOCUMENTATION OF NOMINEE’S ACHIEVEMENTS**

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

**Pillar One: Net Zero Environmental Impact**

**Element 1A: Zero Greenhouse Gas Emissions**

Lakewood Catholic Academy is working to eliminate GHG emissions and conserve the Earth’s precious resources by replacing older fixtures around the school and renovating parts of the building. This summer, we replaced an old 2.6 million BTU boiler with two energy efficient boilers, which are projected to have a 30-40% gas consumption savings. We are currently replacing all of the florescent light fixtures in the school with the latest, state of the art, LED fixtures. In most cases, we are converting from 64-watt fixtures to 16-watt fixtures, which is projected to save 37,081 kWh/year and 62,296 lbs. of CO2 emissions/year. Many of these light fixtures operate with motion detectors, ensuring that lights are only on when people are in the room or hallway. In addition to the new light fixtures, our school conserves energy by having the last student who leaves the room turn off the lights. There are signs under each light switch reminding students to “keep the future bright, please turn out the light!” We are also working to convert all of our classroom blower units to digitally controlled thermostats, which will replace a 60-year-old pneumatic control system.

**Element 1B: Improved water quality, efficiency and conservation.**

We have renovated 3 restrooms over the past 5 years, where we converted fixtures that used 4.5 gallons per flush to fixtures that

use 1.65 gallons per flush. We also have two water fountains that have a function to fill reusable water bottles, one of which is located outside of the gym to be used by our students and visiting student athletes. These water fountains have helped to eliminate waste from over 10,000 plastic water bottles this year alone. In order to encourage students to use these water fountains, a family donated reusable metal water bottles to all of our students in kindergarten through eighth grade. We are committed to keeping this drinking water safe by having our cleaning company routinely clean faucets, taps, and fountains, and having our maintenance staff check and replace aerators, as needed. We are also working with the Ohio Department of Education to test all of our water fountains and sinks for lead, and they will be replaced or repaired should the need arise. A final way that we conserve water is by devoting parts of our campus for ecological use. A Monarch butterfly waystation was planted on our property adjacent to Lake Erie, and only native, regionally appropriate plants were used in order to be water-efficient.

### **Element 1C: Reduces Waste Production**

Lakewood Catholic Academy is committed to reducing consumption, reusing materials as much as possible, and diverting waste whenever possible. The school has a recycling program in place, headed by a fourth grade teacher, Mrs. Leah Nagy, and her “Saintly Stewards.” With her students, Leah researched to find information about recycling and partnered with Lakewood Refuse and Recycle, who came to speak to the students and allowed them to visit the recycling facility. Leah wrote and received a grant from Cuyahoga County Waste Management in order to purchase blue and green recycle bins to place throughout the school. The blue recycle bins were placed in the halls of the school, as well as in the dining hall, and the green bins were placed in classrooms and offices in order to recycle paper. Posters were made in partnership with a graphic designer to help students differentiate recyclable materials from trash. Even electronics are recycled whenever possible. Computers are taken to a facility in Cleveland that will repurpose them, if possible, or will recycle as much as the machine as possible.

### **Element 1D: Use of alternative transportation to, during and from school.**

We encourage our students and families to walk, and about 24% of students walk to and from school. Our school participates in International Walk to School Day, and parent volunteers are on campus that day to hand out stickers and congratulate the students who participated in the event. Students are also encouraged to ride their bicycles to school. About 6% of students ride their bicycles to school and utilize our four bicycle racks in the front of the building. When students participate in field trips, we have them walk to their destination as much as possible. If the staff is attending an off-campus workshop or event, we either encourage the staff to carpool or we obtain a bus to transport our faculty.

## **Pillar Two: Net Positive Impact on Student and Staff Health**

### **Element 2A: An integrated school/district environmental health program**

LCA prohibits smoking in our school and around our campus. Our school has a pest management plan that outlines the use of pest control on an “as needed” basis. When pesticides are applied around our campus, we prohibit anyone from entering the area for at least 8 hours. In order to protect from the dangers of Carbon Monoxide, we have a contract with a professionally licensed and certified HVAC company. The company regularly services and inspects our boiler systems and hot water tanks.

### **Element 2B: High Standards of nutrition, fitness and quantity of quality outdoor time for both students and staff.**

Students in kindergarten through 4th grade engage in school-supervised physical education and outdoor time for 6.5 hours per week, and students in grades 5-8 for 3 hours per week. Students also use our outdoor classroom, which is in the back property along the Lake Erie shoreline. Many of our students also play on teams for our school’s 43 different CYO sports teams, where they participate in additional physical activity.

Another space that we frequently utilize is Lakewood Park. We are lucky enough to sit on the shores of Lake Erie, and we are directly adjacent to a beautiful city park. Our PE teachers often use the parks resources, such as the running trail or the vast fields to play soccer, football, or baseball.

Many of our other students utilize the park in academic classes, with some conducting soil temperature test by taking samples near Lake Erie and others using the new Solstice Steps along the lakeshore as an academic work space. Our students also enjoy physical outdoor activities during various field trips to local nature centers, Lake Farm Park, and Camp Christopher, where they participate in environmental education programs. Finally, each year we participate in Jump Rope for Heart and an annual health festival hosted by the city.

**Pillar Three: 100 percent of the school or district's graduates are environmentally and sustainability literate.**

**Element 3A: Interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems.**

Environmental and sustainability concepts are integrated through the science and religion curricula at our school through the most recent curriculum guidelines. Our fourth grade class is focused on water conservation in our community and around the world, partnering with Drink Local/Drink Tap, a local organization supporting clean water efforts in the Cleveland area and Uganda. The students hosted a water walk to raise money, and raised \$1,400 for clean water wells in Uganda and advocacy efforts locally. Students from multiple grades also worked to research, investigate and interpret data in order to construct displays and teach the school about the effect of trash on our waterways and oceans. Each year on Earth Day, students recycle cardboard from cereal boxes and create sleeves for coffee cups. These sleeves are then given to a local coffee shop, which uses them for their customers. We also offer professional development opportunities in environmental and sustainability education for our teachers. For example, one educator attended the Honeywell Green Boot Camp with educators from around the world.

**Element 3B: Use of the environment and sustainability to develop STEM content knowledge and thinking skills to prepare graduates for the 21st century technology-driven economy.**

Students in grades 6-8 utilize a high school quality science lab in order to conduct experiments. In technology, students complete a project where they create environmentally friendly businesses, learning that financial sustainability should not be prioritized over environmental sustainability. In another class, students use STEM techniques and problem solving skills to learn about solar energy and then use that knowledge to create and race solar-powered cars. Eighth grade students complete an Earth Science unit where they work in teams to create earthquake resistant structures using common materials.

**Element 3C: Development of civic engagement knowledge and skills, and students' application of these to address sustainability and environmental issues in their community.**

LCA has a number of community partners. For many years, we have partnered with the Lakewood Refuse and Recycle Department. Students visit the facility in order to learn about where our waste and recycling goes, and a speaker visits to speak with the students. Another partnership is with the Cleveland Metroparks, with whom we completed a 4-month study of Monarch Butterflies and waystations. Two naturalists taught the students about the importance of the waystations and native plants, and then helped the students to grow and then plant the waystations both on our property and at the Rocky River Nature Center. Green Thumb Landscaping is another partner, who maintains our property and educates the students about native plants around our campus. Every year the company plants bulbs with our second graders. More recently we have partnered with the International Baccalaureate Organization as a candidate school in the Middle Years Program. This partnership requires students to learn about globalization and sustainability throughout the program. Finally, a newer partnership is with Drink Local/Drink Tap, which promotes clean drinking water. A speaker from the organization came to teach the students about how they could make a difference, and the students decided to raise money by hosting a water walk.

**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 [green.ribbon.schools@ed.gov](mailto:green.ribbon.schools@ed.gov) according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509  
Expiration Date: March 31, 2018

**Public Burden Statement**

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

## OHIO GREEN RIBBON SCHOOL APPLICATION FORM

School: Lakewood Catholic Academy  
District: Diocese of Cleveland  
Address: 14808 Lake Avenue  
City Lakewood Zip 44107 County Cuyahoga

Contact person(s): Brian Sinchak and Brenna Warrell  
Email: [bsinchak@lcasaints.com](mailto:bsinchak@lcasaints.com); [bwarrell@lcasaints.com](mailto:bwarrell@lcasaints.com) Phone: 216-521-0559

School Type (Include all that apply): Elementary and Middle  
How would you describe your school?: Suburban  
School Type: Private  
Does your school serve 40% or more students from disadvantaged households? Y/N: N  
School Demographics –  
Approximately what percentage of your school's students qualify for:  
Free Lunch: 6% Reduced Lunch: 4%  
Approximately what percentage of students in your school are limited English proficient? 0%  
Graduation rate (if appropriate): 100%  
Attendance rate: 99%  
What is your total enrollment? 474

### Part Two: Summary narrative

Lakewood Catholic Academy was founded in 2005 and serves students in preschool through eighth grade. We are a member of the Cleveland Catholic Diocese, and our school is located on nine acres of Lake Erie shoreline property. Our school is committed to global sustainability, and we are working toward lowering our environmental impact through service learning and a commitment to STEM and project-based learning.

The location of our campus grants us unique resources and educational opportunities. Our school is directly adjacent to Lake Erie, allowing students and teachers to take full advantage of the ecosystem of our Great Lake. We are also neighbors to Lakewood Park, a 31-acre park in our city. The park features a walking trail used by our physical education students and by our fourth grade students during their water walk, an environmental advocacy and fundraising project. The park also features the recently opened Solstice Steps, which look out over the lake. Many classes walk to the steps and use them as a beautiful outdoor classroom or as a place for reflection.

Through our many partnerships, our school is reducing our carbon footprint while educating our students on how to be environmental stewards, known at LCA at the "Saintly Stewards." Our partnership with the Cleveland Metroparks allowed our students to learn more about Monarch butterfly migration, Monarch Waystations, and the native plants that are the food source for the Monarchs. Our school was chosen by the Cleveland Metroparks as the recipient of an educational grant to build our very own Monarch Waystation on the northern edge of our property.

The partnership that we have with Lakewood Refuse and Recycle inspired our students to begin the recycling program at LCA, and we were the first school in the city to participate in the curbside recycling program. The recycling program has grown over the past few years, and our students are committed to reducing waste whenever possible, including hosting waste-free lunch days in our

dining hall. Annually we host a waste-free lunch day and on average it generates 6 bags of recycling and only 4 bags of garbage. Overall, our Sainly Stewards have reduced garbage school-wide by 20%.

Our partnership with Drink Local/Drink Tap teaches our students the importance of clean drinking water, which inspired them to host a water walk to raise money for water wells in Uganda, as well as participate in local initiatives that promote the use of tap water over bottled water.

Lastly, our school thoughtfully made use of a generous grant from Ohio Department of Education and the Ohio Facilities Construction Commission for the sampling, testing, and replacement of drinking fountains, water coolers, and plumbing fixtures that may have elevated levels of lead.

**Part Three:** PILLAR ONE: Net zero environmental impact

Element 1A: Zero greenhouse gas (GHG) emissions

Lakewood Catholic Academy is devoted to doing as much as possible to eliminate GHG emissions and conserve the Earth's precious resources. This summer, we replaced an old 2.5 million BTU boiler with two energy efficient boilers. These new boilers are projected to have a 30-40% gas consumption savings. We are currently completing a project to replace all of the florescent light fixtures in the school with the latest, state of the art, LED fixtures. In most cases, we will be converting from 64-watt fixtures to 16-watt fixtures. The new lighting is projected to save 37,081 kWh per year. It is projected to save 62,296 lbs. of CO2 emissions per year, and 710,177 lbs. of CO2 emissions over the life of the bulbs. In addition to the savings that the new fixtures will bring, the students help to save energy by having the last person to leave the room turn off the lights. They have made signs for the teachers to place underneath light switches so that everyone remembers to do their part. We are also in the process of converting all of the classroom blower units to digitally controlled thermostats, which will replace a 60-year-old pneumatic control system. Finally, we work to conserve electric energy by having motion sensor lights in multiple wings of the building, and we take advantage of the skylights found throughout our buildings.

In addition to our efforts to conserve energy, we are working to conserve water at our school. We have renovated 3 restrooms in the past 5 years, where we converted fixtures that used 4.5 gallons per flush to fixtures that use 1.65 gallons per flush. We plan to continue this project as funds become available. Our school also has two water fountains that have a function to fill reusable water bottles. One of these is located outside of the gym, where the many athletes who use our facility are able to take advantage of the feature. Between the two water fountains, this year alone we have helped to eliminate waste from over 10,000 plastic water bottles. In order to encourage students to use these water fountains and to cut down on waste, a family at our school donated reusable metal water bottles to all of our students in kindergarten through eighth grade. Students use these water bottles throughout the day.

**Part Four:** Element 1B: Improved water quality, efficiency and conservation.

Our facility has converted 3 student restrooms in the past 5 years, replacing toilets that used 4.5 gallons per flush with toilets that use 1.65 gallons per flush. Our maintenance staff regularly inspects our facility to ensure that there are no significant water leaks and to identify opportunities for savings. A recent inspection showed a leak in an underground tunnel to the boiler system, and our maintenance department worked around the clock to fix the problem.

We are also committed to having safe drinking water for our students and staff. Our cleaning company routinely cleans faucets, taps and fountains in order to reduce possible contamination. Our maintenance staff also regularly checks and replaces aerators, as needed. Another current project being completed by our maintenance staff is a project that is being completed in partnership with the Ohio Department of Education. All of our water fountains and sinks are being tested for lead and will be replaced or repaired should the need arise.

Outside of our building, we are devoted to using our campus for ecologically beneficial projects. Last school year we partnered with the Cleveland Metroparks in order to create a Monarch Waystation on our campus. Two naturalists from the Rocky River Nature Center partnered with one of our fourth grade teachers to educate the students about the Monarch Butterfly, the benefits of the waystation, and the native plants that they would grow and eventually plant. The students created the waystation on a section of our campus adjacent to Lake Erie, and they also took a field trip to the Nature Center, where they planted another waystation. The waystations are water-efficient because they contain only regionally appropriate plants. We also have regionally appropriate plants in the perennials that beautify our campus throughout the year.

**Part Five:** 1C: Reduced waste production.

**Insert Narrative Here:**

Lakewood Catholic Academy is committed to reducing consumption, reusing materials as much as possible, and diverting waste whenever possible. The school has a recycling program in place, headed by a fourth grade teacher, Mrs. Leah Nagy, and her “Saintly Stewards.” Leah started the Saintly Stewards in 2012, and they began developing a plan to help LCA be green. The Saintly Stewards have continued their conservation and awareness efforts, and they make a difference each day at our school.

With her students, Leah researched to find information about recycling and partnered with Lakewood Refuse and Recycle. Chris Perry, of Lakewood Refuse and Recycle, gave the students a tour of the city’s facility and then came to LCA on another day to speak to the students. The students learned about the history of Lakewood’s waste management and where the waste from LCA goes once it leaves our campus. Leah then wrote and received a grant from Cuyahoga County Waste Management in order to purchase blue and green recycle bins to place throughout the school. The blue recycle bins were placed in the halls of the school, as well as in the cafeteria. A graphic designer created posters depicting materials that are recyclable, and students use the posters to differentiate recyclable materials from trash. These posters continue to guide students in keeping LCA green. The recycling that is placed in the blue bins is then placed in curbside recycling receptacles received from the city. LCA was the first school in Lakewood to take advantage of the city’s curbside recycling program. The green recycle bins were placed in every classroom, office, and copy room. These bins are for paper products, and the recycling is collected every week by the Saintly Stewards and placed into the paper recycle dumpsters behind the school. During the 2015-2016 school year, the Saintly Stewards added a compost pile to the back property in order to reduce even more waste.

Throughout the year, we do not generate any hazardous waste. Our cleaning crew uses certified “green” cleaning products whenever possible. When we have computers or other electronics that need to be disposed of, they are taken to a facility in Cleveland where they are repurposed, when possible. If they are unable to be repurposed, the facility recycles as much of the material as possible.

**Part Six:** Element 1D: Use of alternative transportation to, during and from school.

There are many modes of transportation used at LCA. We encourage our students and families to walk, and about 24% of students walk to and from school. These students enter through the front entrance, where our school's president greets them every morning. Our school participates in International Walk to School Day, and parent volunteers are on campus that day to hand out stickers and congratulate the students who participated in the event.

Students are also encouraged to ride their bicycles to school. About 6% of students ride their bicycles to school and utilize our four bicycle racks in the front of the building. These students are getting valuable exercise while doing their part to help the environment. There are also a number of students who arrive via school bus, and these students come from two neighboring suburbs. Lastly, we have a number of students who carpool. Our drop off and pick up locations are more than 25 feet from doors, windows and air intakes.

When students participate in field trips, we have them walk to their destination as much as possible. If walking is not a possibility, we use the minimum amount of buses that can accommodate our students. We are usually able to use one bus that holds about 60 people. If the staff is attending an off-campus workshop or event, we either encourage the staff to carpool or we obtain a bus to transport our faculty.

**Part Seven:** PILLAR TWO: Net positive impact on student and staff health **2A:**

Our school is progressing toward improving the quality of health for all of our stakeholders. LCA prohibits smoking in our school and around our campus. Our school has a pest management plan that outlines the use of pest control on an "as needed" basis. When pesticides are applied around our campus, we prohibit anyone from entering the area for at least 8 hours. Currently, our school uses glue boards and trap boards whenever possible in order to protect our students and staff from harmful chemicals. We maintain summaries of all pesticide applications, as well as MSDS sheets in a binder in our main office.

We also have contaminant controls in place in our school. In order to protect from the dangers of Carbon Monoxide, we have a contract with a professionally licensed and certified HVAC company. The company regularly services and inspects our boiler systems and hot water tanks. To protect our students and staff from mercury, we do not purchase items that contain mercury. We are in the process of eliminating our pneumatic classroom boiler controls and replacing all thermostats with digital thermostats. The thermostats containing mercury will be removed and properly disposed of at the City of Lakewood Refuse Department.

**Part Eight:** 2B: High standards of nutrition, fitness and quantity of quality outdoor time for both

Our school is committed to the physical health for our students and staff. Students in kindergarten through 4<sup>th</sup> grade engage in school-supervised physical education and outdoor time for 6.5 hours per week, and students in grades 5-8 for 3 hours per week. Students also use our outdoor classroom, adjacent to Lake Erie. Many of our students also play on teams for our school's 43 different CYO sports teams, where they participate in additional physical activity.

Another space that we frequently utilize is Lakewood Park. We are lucky enough to sit on the shores of Lake Erie, and we are directly next to a beautiful city park. Our physical education

teachers will often hold classes in the park, taking advantage of the running/walking trail, the vast fields to play soccer or football, and the baseball fields. Our PE teachers also use the park to hold our annual Field Day in the spring.

Our PE classes are not the only classes that utilize the park. Our 5<sup>th</sup> and 6<sup>th</sup> graders use the park to conduct soil temperature tests, taking samples near the baseball fields that are further south, and near the gazebo, which is in the northernmost edge of the park directly next to the lake. Many of our teachers also take advantage of the newly completed Solstice Steps. These steps face the lake, and were designed around the summer solstice. The steps are more like bleachers, and are a beautiful place for students to work and reflect.

Outside of the classroom, our school promotes the health of our students and staff by participating in various community activities. Each year our students participate in Jump Rope for Heart, sponsored by the American Heart Association. Students learn about the importance of heart health while raising money for a good cause. We also participate in Lakewood's fitness festival with many other community groups. At the festival, tables are stationed around the walking trail to encourage people to visit each table while engaging them in physical activity. LCA's table promoted the school and physical activity by giving away Frisbees and encouraging people to play games and hula-hoop with us.

Our school dining program has been overhauled to become more nutritious. We are partnered with Lago Dining Services and provide a fresh salad bar and fresh fruit bar everyday. We no longer fry any food and all food is freshly made each day using a majority of organic, non-GMO ingredients.

Finally, our students enjoy physical outdoor activity during various field trips throughout the year. Students travel to the Lake Erie Nature Center and Rocky River Nature Center, both in different parts of the Cleveland Metroparks. Students learn about nature and animals, and occasionally take part in experiments. Students also visit the Cleveland Metroparks Zoo, where they walk around and learn about the various animals. Another field trip takes our students to Lake Farm Park, where they tour the grounds and take part in STEM activities. Lastly, our fifth grade students visit Camp Christopher, where they stay overnight and participate in the environmental education program.

In addition to offering a quality healthcare program for all employees that prioritizes healthy lifestyle and prevention, the school offers part of the facility to a licensed yoga instructor so that she can provide classes for our faculty and staff members.

**Part Nine:** PILLAR THREE: 100 percent of the school or district's graduates are environmentally and sustainability literate

### **Learning and Environmental Literacy**

3A: Interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems.

At LCA, students are proficient in environmental literacy. Environmental and sustainability concepts are integrated through the science and religion curricula at our school. In science, the students learn about the earth and environment through the most recent curriculum guidelines. In religion, students research ways in which they can make an impact in our community and then put their plan into action. Our fourth grade religion class is focused on water conservation and clean drinking water around the world. They partnered with Drink Local/Drink Tap, a local organization supporting

clean water efforts in the Cleveland area and Uganda. The teacher brought in a speaker from the organization to educate the students about clean water efforts. The students were dedicated to the cause, and they held a walk for water last spring. This walk raised \$1,400 for clean water wells in Uganda and advocacy efforts locally! The fourth grade teachers will continue this work with each new class of fourth graders.

Another project completed by our students had them researching the effects of trash on our waterways and oceans. Students from multiple grades worked together on the project, which culminated in large displays in the school to educate our population about the issue. The campaign, named “Don’t teach your trash to swim,” was a great way for our students to use the scientific process. Students asked questions, developed models, planned and carried out their investigations, analyzed and interpreted their data, and constructed the display that explained their findings.

Each year on Earth Day students complete a project that helps our local community. Students bring in cardboard food boxes, such as cereal boxes, and create sleeves for coffee cups. The students decorate the sleeves and then pass them out at a local coffee shop called the Root Café. This local business is very supportive of the students’ environmental project, and the customers appreciate that they are being educated while receiving recycled material.

Also on Earth Day each year, our school holds a morning of activities celebrating Earth Day. This day is planned and carried out by our parent group and volunteers. Students travel to various stations, including our campus greenhouse, to learn about the environment, plant seeds, or clean up trash on our campus, to name a few activities.

Earlier this year, our third graders took a field trip to the Lake Erie Nature Center. In class they studied soil and its composition. While on the field trip, the students used their critical thinking skills to complete various investigations about soil.

Finally, we offer professional development opportunities in environmental and sustainability education to all teachers every year. Two recent examples of this include Honeywell Green Boot Camp and The Science Behind Ziplines. One of our fourth grade teachers was among 80 educators from around the world who attended the Honeywell Green Boot Camp in San Diego, California. The workshop provided educators with the information, experience, and resources to present their students with lessons on energy efficiency, sustainability, and the environment. One of our sixth grade teachers attended the session on ziplines, held at Common Ground in Oberlin, Ohio. This PD opportunity was open to middle school STEM teachers. Teachers calculated their speed based on mass. They also used the scientific method to answer questions regarding how far someone would travel on the zipline based on their mass. The teachers then gave feedback on the program, which will be open to school field trips in the spring.

**Part Ten:** Element 3B: Use of the environment and sustainability to develop STEM content knowledge and thinking skills to prepare graduates for the 21st century technology-driven economy.

Our students leave LCA after receiving a robust science education. Students gain a deep understanding of life, earth and physical sciences. Our students in grades 6-8 utilize our high school quality science lab in order to conduct experiments and long-term projects.

In technology class, the students participate in a unit where they learn skills needed to complete a long-term project to create environmentally friendly businesses. The students research various eco-friendly corporations and then use the information to create their own businesses. Students discuss the fact that the most important part of their business is that they are caring to the community, and that financial sustainability should not take be prioritized over environmental sustainability. All of the young entrepreneurs came up with caring ways to incorporate philanthropy and environmental sustainability as keystones of their businesses.

Our eighth graders complete an Earth Science unit where they work in teams to create earthquake resistant structures using common materials. Students learned from a local architect who explained the various approaches that architects use to reinforce buildings. They then used their problem-solving skills to design and build two-story buildings created to withstand moderate and intense shocks. Materials and time were limited in the simulation, reflecting real world engineering constraints.

In our seventh grade science class, students study global water systems. During this unit, students research the impact of plastic pollution and its relationship to surface currents. Students complete research on the causes of this ecological disaster, its implications, and what we can do to help. They then used their data and information to create a newsletter to get the word out and to explain how plastic waste has accumulated to form the Great Pacific Garbage Patch, a giant landfill in the central North Pacific.

Our fourth grade students use STEM techniques and problem-solving skills by learning about solar energy, and then applying that knowledge to create and race solar-powered cars.

**Part Eleven:** Element 3C: Development of civic engagement knowledge and skills, and students' application of these to address sustainability and environmental issues in their community.

LCA has a number of community partners. For many years we have partnered with the Lakewood Refuse and Recycle Department. Students visited the city facility in order to learn more about where our waste and recycling goes, and we had a speaker from the department come to school to speak with the students. This partnership helped the school to begin our recycling program, which has grown since its inception. The students also learn about additions the materials able to be recycled, as well as materials that people mistakenly recycle.

A more recent partnership we have is with the International Baccalaureate Organization. Our school is currently a candidate school in IB's Middle Years Program, and we hope to receive full accreditation at the end of this school year. This partnership requires teachers to complete and submit unit plans for every unit taught throughout the year. These unit plans contain a section called "Global Contexts," where "globalization and sustainability" is one of the six global contexts required to be taught throughout the program. Sustainability is also found in a section called "Related Concepts" in the Individuals & Societies class (Social Studies). This partnership and unit plan requirement embeds environmental education into our curriculum.

We also partner with the Cleveland Metroparks, with whom we completed a 4-month study of Monarch butterflies and waystations. Two naturalists from the Metroparks came to LCA multiple times in order to teach the students about the habits and migrations of Monarch butterflies, as well as the need for waystations. The naturalists also taught the students about the native plants that butterflies feed off of, and they helped the students to grow the plants. Once the plants matured, they were planted in waystations both on our property and at the Rocky River Nature Center.

Another community partner that we have is Green Thumb landscaping. Green Thumb maintains our property, and they work to educate the students about the native plants found around our campus. The students learn that by creating gardens with native plants, they are working to conserve water because the plants are adapted to the climate and weather patterns of our city. At the end of the lesson, the company partners with our students to plant bulbs that will bloom in the spring.

Finally, our school has a new partnership with Drink Local/Drink Tap. This organization is supports clean drinking water in Cleveland and Uganda. The students heard a speaker from the organization, who explained that people do not have clean drinking water everywhere, and told the students how they could help to make a difference. The students decided to host a walk for water in order to raise money for the cause, and they were able to raise \$1,400! The students also created cards for the children in Uganda, and many received cards and letters in return.

### **Photo Addendum**

#### **Section 1A:**



New energy-efficient LED lights are being installed throughout the school, and can be seen here in our library.

We are working to replace our pneumatic control system with digital thermostats, pictured here in one of our 4<sup>th</sup> grade classrooms.



Students make sure to turn the lights off when they are leaving the classroom.



The school has two water fountains that have the capability of filling reusable water bottles. Year to date, these water fountains have saved waste from over 10,000 plastic water bottles!



A Lakewood Catholic Academy family donated these reusable water bottles. Every student in grade K-8 received a water bottle.

**Section 1B:**



Our fourth grade partnered with the Cleveland Metroparks to learn about Monarchs and the need for waystations. Students are pictured planting a waystation with plants that were grown in school.

Our Saintry Stewards lead the effort to keep LCA green. Pictured here is a bulletin board that was created to advocate others to join the effort.



Students tour the Lakewood Refuse and Recycle facility.



These recycle bins were purchased using money received through a grant from Cuyahoga County Waste Management, and they have been placed around the school.



### Section 1D:



Many of our students walk to school and enter through our front doors, where they are greeted each day by our school's president.

Our school participates in International Walk to School Day every year. Parent volunteers are on hand that day to congratulate our students and hand out stickers.



A number of students choose to bike to school and utilize our four bike racks.

Our students walk to field trips whenever possible. Here, our kindergarten students walked to the library last month.



We encourage our staff to carpool when attending off-campus workshops and events. If the entire staff is attending an event, we often rent a bus. Staff is pictured here on a bus on their way to our retreat at the Cleveland Botanical Gardens.

**Section 2B:**



We are fortunate enough to border Lakewood Park. Students here take advantage of the Solstice Steps, which they are using as an outdoor classroom.

The school participates in the Lakewood fitness festival, along with other community groups. Our table, pictured here, promoted the school as well as physical fitness. We handed out Frisbees and encouraged people to stop by to play games and hula-hoop.





Our middle school students travel to Camp Christopher, where they participate in environmental education programs.

Students participate in a water walk, which they hosted in order to raise money for water wells in Uganda.



Our students researched the effect of trash on the environment, and more specifically on waterways. They then created this display as part of their “Don’t Teach your Trash to Swim” campaign.

Each year students create coffee sleeves out of recycled cardboard. These students are packing the sleeves to take to the Root Café, where they are given out to customers.





Students investigate soil at the Lake Erie Science and Nature Center.

One of our teachers traveled to San Diego, California to participate in the Honeywell Green Boot Camp.



**Section 3B:**



Students in 6<sup>th</sup> -8<sup>th</sup> grade use our high school quality science lab to complete experiments and investigations.

Seventh grade students researched the effects of garbage and created a newsletter to educate the school on the floating landfill.



Students use their STEM skills to design and build solar-powered cars.

**Section 3C:**

Chris Perry, of Lakewood Refuse and Recycle, came in to speak to our students.





A naturalist from the Rocky River Nature Center teaches the students about native plants. Students then planted seeds that were grown and planted in the waystation.