



2019 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 early learning to 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 and sustainability 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

Public Charter Title I Magnet Private Independent Rural

Name of Principal: Mrs. Dana Corcoran

Official School Name: Immaculata Catholic School

Official School Name Mailing Address: 721 Burch Avenue, Durham, NC 27701

County: Durham State School Code Number: N/A

Telephone: 919-682-5847 Fax: N/A

Web site/URL: www.immaculataschool.org E-mail: sofferar@icdurham.org

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

Date: 02/04/19

(Principal's Signature)



Name of Superintendent: Not applicable

District Name: Diocese of Raleigh

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

Not applicable

(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: NC Department of Public Instruction

Name of Nominating Authority: Mr. Jon D. Long, Architect, School Planning

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

_Date: 2/15/19

(Nominating Authority's Signature)

SUBMISSION

The nomination package, including the signed certifications, narrative summary, documentation of evaluation in the three Pillars, and photos should be submitted online according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509

Expiration Date: March 31, 2021

Public Burden Statement

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



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Contact Information:

Immaculata Catholic School receives curriculum and religious guidance from the Diocese of Raleigh but operates as a fully independent school under the leadership of our Principal and the Pastor of Immaculate Conception Catholic Church.

School Name: Immaculata Catholic School
District Name: Diocese of Raleigh
School Address: 721 Burch Ave.
City: Durham
State: NC
Zip: 27701

School Website: www.immaculataschool.org
Facebook Page: www.facebook.com/ImmaculataCatholicSchool
Principal Name: Dana Corcoran
Principal Email: corcorand@icdurham.org
Principal Phone Number: 919-682-5847
Lead Applicant Name: Robyn Soffera
Lead Applicant Email: sofferar@icdurham.org
Phone Number: 919-682-5847

School Information:

School Type: Independent
Grades Served: Pre-K thru 8
District Type: Urban
Current Enrollment: 534
Attendance Rate: n/a
Graduation Rate: n/a

Does your school serve 40% or more students from disadvantaged households? No

% Receiving FRPL: No
% Limited English Proficient: n/a
Other Measures: n/a

Is your school in one of the largest 50 districts in the nation? No

Summary Narrative:

Provide a narrative describing your district's efforts to reduce environmental impact and costs; improve student and staff health; and provide effective environmental and sustainability education. Focus on unique and innovative practices and partnerships.



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Immaculata Catholic School is an independent school and part of Immaculate Conception parish, a Catholic community in downtown Durham, NC. Immaculate Conception Church was dedicated in 1906 and the current church building was completed in 2002 to create a worship space big enough for the growing community. The school was founded 110 years ago (1909), and our current building was erected in 1951 as a one-story structure. A second level, Fellowship Hall, and additional two-story building were added in 1972 and 1994 as the school's population grew.

Though steeped in history, Immaculata Catholic School has a young and innovative spirit, which led it to become the first Middle School program in North Carolina to receive STEM certification from AdvancED. We are proud to be both an original part of Durham and a part of its nimble, entrepreneurial and changing landscape.

In 2014 our parish founded a Green Faith committee and earned Green Faith status in 2016. Green Faith is an interfaith coalition for the environment that works with houses of worship, religious schools, and people of all faiths to help them become better environmental stewards," (www.greenfaith.org).

As a school that is part of a Franciscan parish, our mission statement mirrors the teachings of St. Francis to produce students who are responsible citizens of the world. This means that we work to care for all of Creation; people, soil, water, plants, air, and all other living organisms. These are core beliefs at Immaculata and threaded throughout all that we do, rather than as one-off projects. We create sustainability habits in our students just as we would teach them math facts...they make environmentally favorable choices without having to give it much thought because the ideals are ingrained in them. From tossing a dried-out marker in a recycle tray rather than the garbage can or taking less paper towel to dry their hands, our students and staff make a big impact in small ways every day. Additionally, our teachers thoughtfully select projects that are fun and consequently memorable for our students to ensure retention of important environmental lessons. For example, our second graders always look forward to their solar oven build project because the "test" of their solar ovens is to cook a personal pizza and smores while they get extra recess on the playground. Our school's buddy system (matching older students with younger students) provides opportunity for younger students to learn from older students and for older students to model and represent stewardship concepts they have learned.

Immaculata's culture is one of embracing ideas. Our Middle School language arts teacher and environmental and gardening enthusiast brought forth the idea of utilizing some of our courtyard space to build garden beds in response to a class discussion about eating seasonal and local produce. The administration supported his idea. In 2011, he started gardening and environmental clubs and electives and the project took root. As students learned from him, they inspired more students to join along. This year we are so excited to have the entire Middle School focused on enhancing our courtyard garden to increase productivity to provide food for the hungry in our community. Along the way they are learning about how other cultures garden, new technologies and methodologies in utilizing space, connecting their impact with the community and better understanding hunger and malnutrition. We were also recently awarded a grant from NC Beautiful to support our educational work in transforming our courtyard into a garden and outdoor classroom.



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This year we applied for and were awarded a grant through NC Bright Ideas Foundation to install light switches with motion sensors to conserve electricity. Our students learn about energy conservation and how these motion switches function and impact energy consumption, analyze the effects of these switches on our kilowatt hours usage one year before and after installation, and work with Dr. Matthew Stutz at Meredith College to do a carbon footprint analysis before and after installation. Our Earth Hour event in March invites families to turn off their electricity at home and come to the school to watch an NCAA tournament basketball game with minimal electricity on in the facility. Local electricity and conservation groups provide educational materials and fun activities.

Recently, our school conducted an experiment with Precision Biosciences and NASA that was launched to the International Space Station to see if DNA can be cut in zero gravity on the way to making long-term space travel safe. Astronauts will be exposed to many types of radiation in space and can develop cancer, and Precision Biosciences is working to see if their methods for targeting cancer cells will also work in space. <http://science.unctv.org/content/scienceblog/Immaculata>

Immaculata values its partnerships with various companies and universities, including the Duke University Shared Information Materials Facilities, Precision Biosciences, NASA, Charles River Discovery Services (CRDS), Burt's Bees, Ellerbee Creek Watershed Association, and the North Carolina Central University Engineering Fab Lab. Both Precision Biosciences and CRDS help our students learn about cancer and DNA and ways that researchers look for cures and safer, more effective treatments.

Participation and Awards:

1. Is your district participating in a local, state or national school program, such as EPA ENERGY STAR Portfolio Manager, EcoSchools, Project Learning Tree, or others, which asks you to benchmark progress in some fashion in any or all of the Pillars? No
2. Has your school, staff or student body received any awards for facilities, health or environment? Yes, for the 2018-19 school year we received grants from NC Bright Ideas and NC Beautiful.

Pillar I: Reduced Environmental Impact and Costs

Describe how your district is reducing environmental impact and costs by reducing or eliminating greenhouse gas emissions; improving water quality, efficiency, and conservation; reducing waste production; and using alternative transportation. Identify your district's energy-efficient facilities and practices, ecologically beneficial uses of grounds, and methods of disposal for solid and hazardous wastes.

Reducing or eliminating greenhouse gas emissions:



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Immaculata has a partnership with Dr. Matthew Stutz at Meredith college who helps 6th grade students calculate our school's carbon footprint. We are examining the impact of installing light switches with motion sensors on our energy use and carbon footprint over the next two years.

National Junior Honor Society students conducted a carline analysis, looking at the number of cars that are idling before dismissal begins at the end of the day before and after information about the harmful effects of car exhaust was sent home to parents in our weekly newsletter. The school also has signs that say "No idling, children are breathing" posted near the parking lots and where cars wait to pick up children. Our "before" data showed that 70% of cars waiting 15 minutes before pick-up began were idling. After data was presented to families in our Friday newsletter with reminders to turn off car engines the number decreased to 40%.

New lights have been installed in the school, church, and adjoining Emily K Center (used for our PE classes and weekly all-school gatherings). These LED lights and have enabled \$8,000-10,000 in savings per year. A total of 2,000 fluorescent lights have been replaced with 1,500 LED lights. The lights have not only reduced electricity usage because they are more efficient, but also reduced the load on the A/C because they put out less heat.

Immaculata is one of the few registered locations in North Carolina for an Earth Hour event this March. Immaculata families and families in our parish and neighborhood are invited to turn off their lights and vampire electronic devices at home and join us to watch the NCAA basketball games in our Fellowship Hall, trading dozens of TV screens for one and enjoy outdoor games in our adjacent courtyard. The school utilizes minimal electricity for bathrooms and screen projection and invites local businesses involved in energy efficiency to educate the community in fun ways. We light pathways in non-electric ways such as solar powered lights and glow gravel. The event also serves to kick-off our weeklong e-cycling event.

Plans are underway for the church and school to replace HVAC systems. The units are nearing the end of their lives. Newer systems will be much more efficient and cost effective.

An analysis of the potential to install solar panels on the school has been done. Quotes from three companies have been obtained and a cost/benefit analysis run. Funding remains an issue. The school applied for grants on multiple occasions but so far has been denied. This remains on our dream list, and we continue to search for opportunities to make this happen.

improving water quality, efficiency, and conservation:

The sinks at Immaculata and in the church buildings have aerator filters and all toilets at the church and church offices are low flow, as are several in the school. School bathrooms are being added and renovated in the summer of 2019 to make all facilities low-flow and energy efficient.

Signs are in elementary bathrooms reminding students to check that they have completely turned off the faucet, so it is not dripping. This includes picture signs in the preschool area. Last year new water



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fountains were installed around the building with bottle-filling stations. This both reduces the number of students who get sick by putting their mouth on the fountain, but also encourages them to reuse water bottles and not use plastic bottles. The church has a cistern and the gray water is used for irrigation around the church and school grounds.

Likewise, through our courtyard garden project, Middle School students are tasked with examining efficient and low-cost irrigation solutions for the plants they are researching, and they are steered toward native North Carolina plants wherever practical to reduce reliance on auxiliary watering.

reducing waste production:

We encourage “Trash-free Fridays” at lunch. This was done experimentally on Earth day last year with some success. Our newsletter contained educational information about why it is important to reduce waste and recycle, and tips for creating trash-free lunches. We hope that increased frequency of these tips and the regularity of the trash-free lunch effort will result in parents using these strategies for lunch on other days of the week as well. A reusable lunch container with utensils was distributed during our Phil’s Challenge fitness fundraiser to support this effort.

We have conducted an analysis of our waste and recycling at Immaculata to see how we could improve recycling efforts. Prior to the analysis each classroom had one recycle bin that was for all recyclable materials. Those bins needed to be separated before being put into four different bins outside for pick up by various companies. We invited our contracted recycle company to present to our student body about what can and cannot be recycled, how recycling works, what can contaminate the process and what cool things are made from recycled materials. Now there are bins to separate the recycling. Each classroom sends students to those designated places to separate their recycling. We also plan to start recycling at lunch times and to use food leftovers in our courtyard garden composting alongside continued education for the students on what can be recycled, how to recycle properly and what makes good compost.

We have set upon a campaign to reduce the number of catalogs delivered to the school by inviting staff to deposit unwanted catalogs in a designated box. We then contact all those companies to remove names from their mailing lists. We now share catalogs that have appeal to several staff members. In just a short period of time this has reduced the influx of catalogs into our school by a full U.S. mail bucket per week. This simple effort saves fuel emissions in the mail delivery trucks and enables the companies to produce fewer catalogs.

Our National Junior Honor Society students put up signs in the bathrooms under the paper towels encouraging students and staff not to use too much but to “Pull down to the line” to reduce paper towel waste. They also put out battery recycling boxes at the front of the school for families and organized shred and e-cycle booths at Earth Hour.

Our technology department e-cycles our old computers and other devices and purchases refurbished devices as often as possible. We have purchased 33 refurbished PC/laptop devices and 20 recycled



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monitors from Triangle E-cycling. In the past three years, we've donated about 75 old desktops and monitors to Kramden Institute, another e-cycling company.

All classrooms have boxes in which to put dried out markers for recycling through Crayola's take back program. Our Home & School Association recycles our printer cartridges.

As we have needed new text books, we have moved to online versions for Middle School—a savings of paper, the environmental impacts of shipping heavy textbooks, and the health of our students' backs. Many middle school texts (Social Studies, Vocabulary, Spanish, and Math) are completely online now and assignments are turned in and graded online through the Microsoft Teams app.

Our Friday newsletters are paperless, and we strongly discourage the use of any paper flyers for communicating programs or events.

Primary grade classrooms have the use of individual white boards and dry erase markers for students to practice math problems and other lessons to avoid paper copies, while at other times they use sand-writing as a technique for students to do problems or practice their handwriting skills. Our GoMath and STEMScopes curricula have online components for homework and tests and 2nd grade also uses Google Docs for writing assignments.

The school and church buy only green recycled paper products, from copy paper to plates, cups, utensils, etc. The school was given dishes, silverware, and coffee mugs to use instead of paper and the soda machine in the teacher's lounge was replaced with a newer, more energy-efficient model. We recently replaced our laminating machine to a more energy-efficient model that will also eliminate some laminating film waste with each job. Additionally, we requested that our lunch vendors consider how they can reduce the amount of waste created through our catered lunch program (we don't have our own cafeteria). Two of our vendors changed over all packaging and utensils to those made from plants.

using alternative transportation:

Several grades at Immaculata can either use public transportation or walk to field trips. These include the Durham Bulls Education Days at the ball park, the Nasher Art Museum, Duke Gardens, The Carolina Theater and local tours of Durham history. Parent carpooling is encouraged, and we acquired two 12-passenger vans to assist with field trips and sporting events so fewer parents need to drive their own cars. These vans also drive alumni students to the Catholic high school in Raleigh each morning in a van pool. This eliminates approximately 20 vehicles from Interstate-40 traffic 5 mornings a week, 9 months a year. We have conducted a survey about carpooling from our families and plan to design a carpool website or message board in which families interested in carpooling can get in touch with others who live nearby.

Identify your district's...

...energy-efficient facilities and practices:



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Our building is an old one, pieced together over several decades. Over the years, windows have been updated to reduce UV light and energy efficient blinds have been added as well. New lights have been installed inside the school, church, and adjoining Emily K Center with which we have a shared space as well as on the school grounds. These lights are LED, using less electricity and producing less heat, and no mercury. A grant from the Piedmont Electric Cooperative has funded the installation of light switches with motion sensors to reduce energy when rooms are empty. This is incredibly helpful when the building is in use by parish groups and after school activities. Rooms not normally in use will still have the lights out, but other rooms can be illuminated for safe movement around the building.

...ecologically beneficial uses of grounds:

Our Middle School is focusing the 2018-2019 school year on renovating garden beds in our courtyard and redefining the space to expand gardening opportunities. Students will explore traditional and alternative methods of gardening with the goal of creating the most productive use of the space in order to provide fresh food to the hungry within our community.

Each grade level (6th, 7th, 8th) has an area of the garden in which they are tasked with improving. They must design a productive garden space that is also aesthetically pleasing, multi-dimensional, contains appropriate and efficient irrigation systems. Through the process they study different cultures' ways of producing food and feeding their citizens. Students must research their ideas in their math and social studies classes; draft, refine and practice presenting their proposals in Language Arts. They present their proposal to a panel to gain approval for their design. Once approved, their project unfolds in our Project Lead the Way Maker Space and engineering classes.

This project is largely shaped by the students. With some guided suggestions on researching vertical gardening, aquaponics and hydroponics coupled with expertise sharing on traditional gardening, they transformed our space into a wonderful outdoor experiential classroom for the entire school community to enjoy, learn from and take pride in.

We want our students to come away with an appreciation for the environment, their place in the community, a love of nature, an understanding of how they can grow food in small or alternative places. We raised awareness of issues impacting our environment and sparked their excitement and creativity to address challenges. The students gained an appreciation for where their food comes from and the work that goes into it as they actively learn citizenship and leadership and feel empowered to make a difference in their community.

While the courtyard portion of the project is primarily geared toward our Middle School students, our elementary students are participating in the Tomatosphere project where they are growing two sets of tomato seeds. They are collecting their data and submit to NASA, at which point they will learn which of their sets of seeds have travelled in space. It is our hope to have some successful and strong seedlings to bring to our courtyard garden in the Spring.



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On other areas of our campus, our Boy Scout group installed bluebird houses on the grounds two years ago. A rain garden was installed on campus to beautifully address roof run-off during storms. We also installed a cistern, which our students decorated, to catch rainwater for gardening use. There is also a pollinator garden on the playground near the garden boxes maintained by the parish gardening and Green Faith committees. Kindergarten makes bird feeders from recycled milk cartons from our lunch program. During Earth Day the school hands out seed packets to families attending weekend Masses so families can plant pollinator gardens at home.

...methods of disposal for solid and hazardous waste:

The last four years at Immaculata have been very exciting. An anonymous donation gave us a new science program with updated equipment and incredible labs. We now have a hazardous chemical cabinet and all our chemicals are stored appropriately. Science teachers follow SDS procedures for proper disposal of these chemicals after labs and students wear appropriate gloves, eyewear, and lab coats.

We also received STEM certification in our middle school through AdvancEd. Many of our teachers and students recognize that it can be very expensive and wasteful to build and engineer so many projects and have made conscious efforts to recycle materials for use in other classes and projects, or use supplies made from recycled materials. Cardboard shipping boxes from our new tables were used to create fun house mirror supports and a maze for the Halloween Carnival. Teachers brought in bottles from home to build rockets. The bottles were then used at a rocket-themed carnival for grades PreK-5 and used for "mummy bowling" at the Halloween Carnival. In these ways we are teaching our students to use what they have around them to solve a problem and, at the same time, create less waste.

Pillar 2: Improve the Health and Wellness of Students and Staff

Describe how your district improves the health and wellness of students and staff by integrating a school environmental health program and promoting sound nutritional and fitness practices. You should discuss integrated pest management, contaminant controls and ventilation, asthma controls, indoor air quality, moisture control, and chemical management. Address the amount and type of outdoor time that your students and staff have, as well as the types of fresh, local, and organic food that they eat. Other components you may want to include are: health education, health services, counseling, psychological and social services, staff health promotion and family and community involvement.

Immaculata changes the HVAC filters quarterly, has switched to ecofriendly glass cleaner, and uses air fresheners in adult restrooms that do not aggravate breathing passages. Maintenance staff also no longer sprays air freshener in hallways. Our students do not have to go out for recess when the weather is extremely cold or if we are under air quality alerts. After recent flooding from hurricanes in one classroom the carpet was removed to prevent mold growth. We have regularly scheduled mold inspections. Our landscaper uses minimal chemicals on the church and school grounds. All chemicals



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used on campus are stored in locked facilities alongside manuals on the chemicals use, contents and dangers.

We are in the process of analyzing the chemicals used to disinfect our building and keep our students healthy. We strive to be as green as possible, yet this is an area for improvement for us. There are many factors to take into consideration such as the effectiveness of greener options on the ability to kill germs that flourish in a building of over 500 children. We are assembling a task force to address this.

The church and school purchase only fair-trade coffee for urns and large batch machines and 1-cup style machines have inserts for ground coffee to reduce waste.

Our lunch vendors include many healthy options each day. Our teachers keep an eye on what students are eating and privately confer with parents when it seems the food choices in packed lunches are impacting a student's health on academic performance.

Physical fitness is an important part of life at Immaculata at all levels. Like many schools we have competitive sports teams for grades 5-8 each season that includes boys' and girls' soccer, baseball (girls can play on the baseball team), co-ed cross country, boys' and girls' basketball, and cheerleading (boys are able to try out for cheerleading, though none have yet). In the Fall season 39% of eligible students participated, this Winter 26% of eligible students are participating, and in the Spring season we anticipate 15-20% of eligible students will participate. We do not cut athletes from our sports teams so that we can build a foundation and love of physical activity, athleticism and sportsmanship in our students.

We offer Soccer Shots for PreK-1st grade, Girls on the Run for 3-5th grade, and a hip-hop dance club after school for 2nd-8th grade, and yoga for all grades. Our Summer Camp programs include a Girls Empowerment, volleyball, basketball and cheerleading and all our other camps emphasize at least one hour of physical activity daily.

Several teachers, especially 1st and 2nd grade, use yoga in classrooms as a way of settling children when they first arrive, during indoor recess on rainy days, or before or after large exams such as midterms, finals, or standardized testing for older students. Kindergarten calls these "exercise brain breaks", and 1st grade calls it "cosmic yoga" when they cover their space unit.

Each morning meeting in our preschool has a movement component, and preschool dismisses from the playground each day as weather permits to allow students more outdoor time, eliminating the amount of time students sit still and watch a movie during dismissal when names are called.

Grades PreK-5 have physical education class once a week for 45 minutes and recess twice a day for 30 minutes each. Notably, our Middle school students have one 20-minute recess each day and two 45-minute physical education classes per week. PE classes are held outside on the lower field depending on the weather and sport being covered. Middle school offers electives three times a week and many are based in the health areas, including walking, ultimate frisbee, aerobics, ballet, sports skills, and mind and body health.



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Extra recess is a common reward for good behavior or simply something our teachers enjoy making time for on pretty days. You will often see some of our teachers playing football and other activities right alongside the students modeling a lifelong appreciation for physical activity.

For our teachers, we have an afterschool walking club and a teacher and parent volleyball team that meets and competes weekly.

Phil's Challenge, our school-wide fitness fundraiser held in the Spring, challenges our entire student body to spend a week focusing on different elements of their physical, mental and emotional health through yoga, dance, weight-training, nutrition and cardiovascular health. Community members and alumni join us to lead large groups of fitness exercises and educational sessions (e.g. on nutrition) during assembly and recess times as well as video-based activities within the classrooms. Kindergarten integrates their science curriculum instruction time this week on healthy eating, such as identifying the food groups and sorting between treats and healthy options.

Phil's Challenge culminates with our entire school gathering in our gym to cheer each other on as grade level groups each run laps equaling a mile. Bull City Running, a local running store, joins in to lead the entire school in pre-run stretches and students in the stands dance to the energetic music being pumped through the gym. The Fresh Market provides organic fruit as post-run refreshment, and the students all receive health and fitness-related take-away gifts.

Students collaborate in a During National Outdoor Classroom Day many classes met outside for math scavenger hunts, poetry writing, playing our new oversized xylophones built by grandparents on Grandparents Day and more to reap the benefits of outdoor learning. Our school has buddy benches and picnic tables on the playground, and picnic tables in the courtyard that many teachers take advantage of for outdoor or messy projects on nice days. Many staff members also take advantage of the outdoor space during their planning time. Fundraising is currently underway to add more tables in our courtyard to serve as an outdoor classroom space available to everyone. As our Middle School works to expand and improve our functional garden this year, the courtyard will be a vibrant and exciting outdoor educational space.

Flu shots are offered every year to the staff and parents though Harris Teeter pharmacy. An Immaculata parent who is a Harris Teeter pharmacist holds a clinic on campus. Our principal has received her flu shot in front of the entire school to demonstrate the importance of being vaccinated and reduce fear around shots.

Immaculata places strong emphasis on the emotional health of our students. A psychologist is on campus two days a week to provide counseling and testing for our students. Plans are in the works for a sensory path for emotional regulation for our students in need of such interventions during the day. There is also an academic anxiety group run by a parent mental health professional for middle school and some upper elementary school students.

Our Middle School Leadership elective runs Start with Hello Week, which is a part of the Sandy Hook Promise. The program enables students to make a difference with their peers in a simple, fun, and impactful ways by encouraging them to take small but powerful actions to promote connectedness and



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inclusion, and to identify and help others who are showing signs of social isolation.” (www.sandyhookpromise.org/startwithhelloweek). Our students put positive, encouraging signs on each student’s locker, we sit with cross-grade groups at lunch, set up compliment boxes in each classroom for teachers and students to leave notes for each other, have a day of secret good deeds, a mini field day at recess to encourage teamwork and cooperation, and have “dress like a super-hero” day to remind us that we can be super-heroes to each other in small and big ways.

Our guidance department offers several services to students. Some examples include, but certainly are not limited to, a Healthy Plate presentation by The Poe Center for Health Education for 3rd -5th grade students, Bully Busters presentation from the Durham Bulls Baseball Team for PreK-5th grade, in-class anti-bullying and positive social interaction curriculum for classes in need, 8th grade high school preparation that includes peer pressure for drug and destructive behavior avoidance, and leadership training sessions for athletics team captains. A therapy dog comes in weekly for students and staff to spend time with for coping, reading or relaxing.

The Family Life curriculum in 5th grade covers hygiene, self-respect, taking care of your body which is a temple of God (food, exercise, relaxation, etc), and abstinence until marriage.

Community Outreach Health Initiative Projects for Middle School include the following projects:

- Create a minimal equipment needs game for Pre-K, K and 1st grade students to play during recess in school community and send to other global schools around the world (global community) to learn. These games are incorporated into our school-wide fitness fundraiser— Phil’s Challenge. (lifelong fitness with minimal/no equipment)
- “The Truth” students, parents and staff (of ICS and Emily K Center) are invited to participate in a Health Initiative to determine their LBM via Hydrostatic Weighing. This project helps participants view/understand their body structure/size in terms of what is realistically possible. Topics include; Body Composition, Nutrition, Self Esteem/Self Worth, Body Image, Effects of Media on self/body views.

Pillar 3: Effective Environmental and Sustainability Education

Describe how your district provides effective environmental and sustainability education by incorporating STEM, civic skills, and green career pathways. Provide examples of interdisciplinary learning about the key relationships between dynamic environmental, energy, and human systems. Demonstrate how your district uses the environment and sustainability to develop STEM content, knowledge, and thinking skills. You should also discuss how your district develops and applies civic knowledge and skills to environmental and sustainability education.

Immaculata’s middle school received AdvancED STEM certification in 2017, the first in North Carolina. STEM for us is more than its initials (Science, Technology, Engineering and Math). Rather it is how we approach learning. It is our cross-curricular way of teaching our students by engaging their minds in a variety of ways. We have many engineering projects and problem-based learning projects advancing



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students' critical abilities to solve real-world challenges. Most projects begin by looking through a lens of the Care of Creation. We do not simply dive into projects, but take the time to examine the sustainability and environmental aspects....what is the human-environment relationship within the problem we are aiming to solve. Our students are raised to be responsible citizens of the world. Our focus on morality and values includes our relationship with our planet and its citizens who all have value. To that end, we have many opportunities for students to be environmental stewards and learn about environmental conditions in other areas of the country and world.

Environmental Club at Immaculata meets weekly and includes students from grades 5-8. Students work in the gardens on campus, upcycle various materials for whirly gigs and other fun garden displays, repair bicycles for students in need at other schools in Durham, and help with recycling and litter clean up. They have also planted bulbs through a grant from Plants Keep Durham Beautiful. Our religion classes, Girl Scouts, Boys Scouts and Girls on the Run have all had a turn in beautifying our campus in the Spring with bright and colorful flowers. Our 8th grade students worked with their Pre-K buddies to plant flower seeds on the playground.

Our school has had a relationship with the Ellerbee Creek Watershed Association (ECWA). Representatives have come to speak to our students about conservation, sustainability, and local water quality, and our students have completed service trips to the watershed to clean up, make signs on paths, and remove invasive plant species. Our relationship with ECWA has been a positive and productive one for our community over the years. We have also had representatives from the Community Conservation Assistance Project talk to our students about the watershed that the school is in (which is 3, depending on where one is on campus!) and recent updates to drainage on campus helped stormwater runoff during two recent hurricanes.

One of the Middle School science teachers attended one of three regional Centers for Disease Control (CDC) Science Ambassadors Workshops and now teaches the CDC Disease Detectives elective. Students learn about disease transmittance and how the CDC determines outbreaks, investigates the cause, and works with various local agencies to treat patients and prevent the spread of the outbreak. This elective pairs with a Project Lead the Way curriculum also offered to middle school students called Medical Detectives. Students play the role of real-life medical detectives as they collect and analyze medical data to diagnose disease. They solve medical mysteries through hands-on projects and labs, measure and interpret vital signs, dissect a sheep brain, investigate disease outbreaks, and explore how a breakdown within the human body can lead to dysfunction. Students learn healthy habits that prevent the spread of disease, especially various forms of the flu virus.

During career week our Middle School students sit down with parent and community professionals from various careers, including veterinarians, doctors, researchers, and more. Our 8th grade students visit labs, including Precision BioSciences and Burt's Bees. Burt's Bees is a local company in Durham that makes various health and beauty products using only natural products. Students learn about sustainable packaging, environmentally-friendly company practices and research, and gain understanding that you can be successful while using products that are good for the environment and good for consumers. Our



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Middle School engages professionals to share their educational experiences, daily job tasks, and other details with our students via career day and a regular speaker series. Dr. Beneviedes from UNC Greensboro brought snakes and explained their importance in ecosystems and to people in the form of pest control. Dr. Luke Dollar from Duke and National Geographic spoke about endangered species and habitat conservation in Madagascar. He emphasized how important it is to educate people about the importance of endangered species can be to their farms and their livelihood. People killed the Fousa thinking that the Fousa were killing livestock, but in fact the Fousa were killing other animals that were hunting livestock. By killing the Fousa, other animals increased in population, killing more livestock. It was beneficial and sustainable for them to help increase the Fousa population. Ben Fleishman from Engineering World Health spoke about how medical equipment no longer in use by hospitals can be repaired and sent to remote and poor countries in need of better medical care. Jobs are created in these locations, too, when local people are trained in the use and maintenance of this equipment. We have reached out to the Nicholas School of the Environment to present to our students about degree programs available in the environmental sciences and the types of careers available.

Elementary has an enrichment assembly from the Duke Energy Program about how energy is produced and how we can conserve resources and are offered free home energy kits. Our third-grade students hear from Jennifer Brooks from Durham County Environmental Education Department about conservation and sustainable energy in our homes and neighborhoods. Our second-grade classes also host a career day, which includes hearing from professionals (who are also second grade parents) in human health and the sciences.

We have made our student health an important part of our curriculum here at Immaculata, including the new Physical Education Health program introduced in 2018 mentioned in Pillar 2. Our preschool begins the year with health, starting a routine that, we hope, lasts through their time here at Immaculata. Students should wash their hands before walking into the classroom each morning and teachers review a hand-washing routine. They also discuss T-zone germ prevention and have a unit on dental health. There are signs up in bathrooms about good handwashing, not just in preschool, and about coughing into elbows and not hands as a reminder of good practices. They do fun glitter experiments that demonstrate the spread of disease and discuss its impact on their classroom. Preschool participates in the St. Jude's Trike-a-Thon fundraiser every year and learns about the importance of exercise and helping others.

STEMScopes is our elementary science program. It has specific health units in 3rd, 4th and 5th grade about skin, nutrition, preventing the spread of germs, and how to keep our bodies healthy. Our 7th grade students study body systems, how they are interconnected, and how cancer affects our organs and systems. Our students learn about bioethics and take a field trip to Charles River Discovery Services. This is the 15th year of our partnership and our students are able to see how the drug discovery process works in the search for better treatments and cures for cancer.

This program is aligned with the Next Generation Science Standards (NGSS), as well as with the Common Core in math and English language arts. The NGSS, and therefore STEMScopes, has units that specifically



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address interconnectedness of Earth systems and human impact on Earth systems. The engineering problems provided in most units require students to use teamwork to find the solution to a problem. Problems include designing a shelter for certain plants based on its needs in Kindergarten, designing a way to keep rabbits out of a vegetable garden in 1st grade, constructing solar cookers in 2nd grade, modelling ecosystems in 3rd grade, preventing soil erosion in 4th grade, and designing a solar still or a home for a hibernating animal in 5th grade.

Other elementary – Additionally, teachers supplement their science program or create cross-curricular projects with teaching partners, and during St. Francis week and the week leading into Earth Day the topics of conservation, sustainability, and environmentalism are especially evident. In all grades the Diocese of Raleigh Science standards include: God provides us with all we need to survive; We must appreciate, care for, and protect these gifts through conservation, preservation, and stewardship of natural resources; All living things are dependent on their environment to sustain life; The Earth is dynamic and resilient, yet fragile and finite; Demonstrate a respect for all forms of life and a growing appreciation for the beauty and diversity of God’s world; and Demonstrate responsible and ethical behavior that exemplifies Catholic values, including respect for all life. Projects done throughout the year in the elementary school include the following:

- Preschool – classroom recycling, water and paper towel conservation in bathrooms, Save the Bees pollination unit and butterfly life cycle unit (students observe caterpillars metamorphosis into butterflies and then release them by our pollinator garden), renewable resources (sunflower power, ways we use trees, solar power) and plants and flowers using two books, Stone Soup and Ugly Flowers. One year the 8th grade students presented information about pollinators to PreK and planted seeds in the pollinator garden together.
- Kindergarten – “being a good citizen means caring for the Earth” unit, rewards for picking up playground trash, Johnny Appleseed unit on the importance of trees and their life cycle, and reading Clean Beaches, The Lorax, The Little House, and Berenstein Bears Don’t Pollute.
- 1st Grade – A Social Studies project called “Looking at our World” with specific lessons on our environment and the 3 Rs, reduce, reuse, recycle as well as animal habitats and what is needed to survive in science lessons. First grade students also visit Durham Animal Protection Society to read to the pets awaiting adoption.
- 2nd Grade – Animal habitat trading cards and physical chains to show how we are all connected in food webs, Poster contests for Earth Day and water conservation through the City of Durham, prevention project, recycling milk cartons into art, crayon recycling STEM activity, and a solar power unit in conjunction with a field trip to the WRAL Solar Farm in Durham, and an ecology/art field trip to Duke Gardens (a walking field trip), and an experiment about bacterial growth in apples and germs.
- 3rd Grade – A unit on taking care of our pets during St. Francis week, Earth Day no worksheet week, and a plant walk along the Eno River about history, environmental appreciation, and conservation.



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- 4th Grade – A unit about what causes hurricanes, climate change, and how we can stay safe during a hurricane, and what are healthy snacks and how can we keep our bodies healthy.
- 5th Grade – Students research a type of water pollution and create a proposal to solve the problem with connections to how pollution negatively affects plants and animals in different habitats, and a unit on how global warming can affect three different climate zones and how we can conserve energy in our everyday lives.
- Triangle E-Cycling, which ran our community-wide e-cycle challenge offered classroom lessons on what is in a computer and how computers work alongside their e-cycling education and each class received a presentation by our National Junior Honor Society students about proper recycling dos and don'ts.

Middle School – Immaculata has a multi-disciplinary approach to learning and the entire Middle School faculty meets twice weekly to discuss lesson plans and projects and brainstorms ways to involve several subject areas into each project and also opportunities to make real-world connections. These connections engage our students' minds and show them how our world is interconnected. Scientific developments can help areas of the world affected by drought due to human-caused climate change, for example.

In addition to our garden project mentioned earlier, we have looked at what human needs would be to survive in a Habitat Module on Mars and built models of those modules in scale. In doing so, students learned that it is important to have fresh clean water, air, and soil in order to live anywhere, including here on Earth. Without those things, which our students take for granted, quality of life decreases. This project was incredible for forcing our students to think through all their needs, their interdependence on others and what their planet provides them. They gained a great deal of appreciation for the need to protect and preserve our natural resources when juxtaposed with a planet that has none of what Earth provides us.

In Science and Social Studies classes, our 8th grade looks at sustainable development on the North Carolina coast where beach erosion is a concern. Inspired by this lesson, a couple years ago our 8th graders elected to visit the beach for their 8th grade trip to study coastal ecology.

Students build and analyze water filters in Science and Language Arts classes when they read Of Mice and Men and examine the social justice issues surrounding migrant workers. With recent hurricanes in our state the importance of clean drinking water was driven home as many friends and family members were without this resource for days and weeks. We reflected on this situation that was hitting home and used it to gain perspective on areas of our world where clean drinking water is a daily struggle. Students researched and learned that lack of drinking water in developing countries prevents women from getting an education and leads to disease and malnutrition. The timing worked out perfectly with 6th grades novel study of A Long Walk to Water in Language Arts that crossed over to examine cultures in various areas across the globe in connection to water supply in Social Studies class.

Rising 8th grade students read The Boy Who Harnessed the Wind over the summer and then build and analyze water and solar powered generators in science class. Students research and compare renewable



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and nonrenewable energy sources and write proposals for placing a specific type of renewable energy in a location of their choosing. Another cross-curricular project in the 8th grade involves endangered species research in science and the creation of symmetrical conservation program logos in Math. They then raise money to symbolically adopt an endangered animal from The World Wildlife Fund (WWF). The stuffed animals from WWF that line the shelves in our science lab are a reminder of the impact we've had just in this one unit of study.

Our 7th grade students work in Math and Social Studies to build rain gauges and analyze rainfall in different biomes, read Out of the Dust in Language Arts and study the geography, weather, and history of the region in Social Studies. In another unit they read The Weirdo in conjunction with our service trip to the Ellerbee Creek Watershed. In Language Arts there is a new Paws, Claws, and Whiskers unit to work in conjunction with The Weirdo about conservation. Students research an environmental problem and write an expository essay about it and a persuasive email to local and state governments about how to address the problem. They also study biomes and how climate affects not only crops, but culture. All of these projects emphasize the needs for clean drinking water, how water becomes polluted, the impact of climate change on water distribution on Earth, and the connectedness of human actions on Earth impacting Earth systems.

Additionally, 6th grade studies soil formation, importance, conservation, and erosion prevention methods, climate change and global warming. The 7th grade studies interconnectedness of body systems, the effect of cancer on various body systems, and they visit a cancer research lab during their biomedical research ethics unit. The 8th grade studies the importance of biodiversity and sustainable development and the difficulty in managing the two in poorer areas of the world. They learn the effects of water pollution and the lack of water in various areas in the world and how that can affect the health and education of the people living there. Lastly, they learn about proper fisheries management and food supplies.

At the heart of what we do is the theme "Care for Creation." It is central to many of our projects mentioned above. We read from the Catechism that "The dominion granted by the Creator over the mineral, vegetable, and animal resources of the universe cannot be separated from respect for moral obligations, including those toward generations to come." (2456). Even our four and five-year-olds learn that it is important to take care of our Earth. Everyone can do something, even something small, to help our environment. We teach our students that, though saving the planet seems daunting, it is important and worthwhile to do our part in any way that we can. Our students learn that harming plants, soil, the water supply, animals, any part of the environment, can have repercussions for us. By regularly and consistently developing sustainable habits our students grow up believing that this is simply the natural way of doing things. You see trash, you pick it up. A marker is dried out, you recycle it. You turn an empty paper towel roll into an amazing marble maze. (We have many parents who literally stock pile toilet paper rolls and plastic bottles knowing the school is going to request them eventually.) We are cultivating an environmentally-friendly lens through which they examine their role in the world. We are teaching them that it IS easy being green, but that it also takes a group of caring people to make important changes where change is needed.