



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. Pamela Moore**

E-mail: pmoore@discoverycharter.org

Official School Name: **Discovery Charter School**

Official School Mailing Address: **800 Canonie Drive, Porter, IN 46304**

County: **Porter**

State School Code Number *: **9870**



Telephone: **219-983-9800**

Fax: **219-929-5723**

Web site/URL: <https://www.discoverycharter.org>

Facebook/URL: <https://www.facebook.com/DiscoveryChart1>

Free and Reduced Lunch: 26%

Minority Percentages: Black/African American 7.3%; Asian 4.2%; Hispanic/Latino 15.7%; Multiracial 5.8%

Limited English Proficiency: 1.8%

Special Education: 14.7%

Attendance Rate: 97.2%

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

Pamela Moore

Date: 12-3-2020

(Principal's Signature)

Name of Superintendent: **Mr. Ernesto Martinez**

District Name: **Discovery Charter School**

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

EFZ

Date: 12-3-2020

(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: Indiana Department of Education

Name of Nominating Authority: Mr. Joseph Matthew Walsh "Matt"

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

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



Date: January 16, 2021

(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.



DISCOVERY CHARTER SCHOOL APPLICATION FOR GREEN RIBBON SCHOOLS CERTIFICATION

Summary Narrative

Discovery Charter School in Porter, Indiana, currently comprising about 60 staff and 475 students in grades K through 8, was founded in 2010 as the result of effort by a group of families who wanted for their elementary-school-aged children a school that incorporated place-based education. Place-based education, simply put, is an educational approach that emphasizes engagement with all aspects of the local community, including the ecological, economic, and cultural environment, to make learning relevant to students' lives and experience, and to guide students to develop a sense of community and their place in it. Discovery's mission states the following: "Discovery Charter School will foster in its students the passion and curiosity necessary for lifelong learning. Students will develop the ability to think critically, communicate effectively, and excel academically. Through an integrated, place-based curriculum, our students will become stewards of their environment and community." With that in mind, the school community and stakeholders have worked since the founding of the school to incorporate sustainable practices as well as place-based education.

The school's founders were fortunate to find a location to establish the school in an existing office building adjacent to a parcel of the Indiana Dunes National Park. Discovery students have easy access into the eastern deciduous forest by means of a trail that links to the National Park's more extensive Glenwood Dunes trail system. The 14,000-year-old dunes, the forest, wetlands, and old home sites provide a natural laboratory for students to make observations, to explore plants, animal signs, and water quality indicators, and to learn to care for the land. Students develop a sense of place in these natural areas that become familiar to them as they visit throughout the seasons and over the years.



Discovery Charter School is located on about 10 acres of land adjacent to the Indiana Dunes National Park in the Lake Michigan watershed.

Discovery is committed to improving natural habitat on the school grounds and to using our outdoor spaces for learning and to contribute toward students' mental, emotional, and physical health. Students at recess enjoy a nature play area adjacent to a more traditional play area. As often as weather permits, students dine in an outdoor lunch space with picnic tables, sun shades, and native plantings. An outdoor classroom adjacent to the building allows for outdoor seating and includes a rolling table and chalk board. The grounds include a butterfly



garden that has been certified as a Monarch Waystation, bee hives and pollinator plantings, bat houses, a rain garden, and a re-seeded grassy playing field which was once barren gravel. The grounds are recognized as a Schoolyard Habitat by the National Wildlife Federation, and the native plantings have been recognized with the Shirley Heinze Land Trust's "Bringing Nature Home" award. Most importantly, many of the initiatives for improvements on the grounds were student-led or had student involvement. Outdoor spaces on the campus provide opportunities for students to be outside to eat, relax, exercise, explore, learn, and do authentic work. They contribute to the learning environment, to wellness, and to developing the knowledge, skills and understanding for our students to become stewards of their environment and community.



Middle school students wore protective suits to work with the bee hives in the spring of 2016

Discovery's curriculum framework is aligned to Indiana's state standards, with the expectation that teachers will create opportunities throughout the curriculum to connect learning to our place. Discovery has also adopted standards for each grade level based on the Great Lakes Literacy Principles (Center for Great Lakes Literacy), in recognition of our place in the Great Lakes watershed. As teachers teach the standards – across all subject areas - they find ways to incorporate the local environment, take learning outdoors, implement related STEM challenges, make learning authentic, create projects that are interdisciplinary, and incorporate service to the school and/or surrounding community.



A 4th grade class gathered at Discovery's outdoor classroom in the fall of 2020.

Teachers plan at least weekly field experiences in which students reinforce their classroom learning outdoors on a hike or other outdoor activity on the school grounds or on an off-site learning experience. Students are expected to come prepared for outdoor activities every day. Emphasis is on local experiences that reinforce seasonal changes, environmental education, and community exploration. To provide students with in-depth, immersive learning experiences, all students in fourth grade and above have the opportunity to participate in overnight excursions tailored to their age and grade level.

Middle school students have examined energy use, biodiversity, consumption and waste, healthy living, and schoolyard habitats at Discovery through the National Wildlife Federation's Eco-schools project, most recently earning a Silver Award for the school. Several middle school classes have used the Earth Force framework to identify problems in their community and to devise and implement solutions. This interdisciplinary work has led to the installation of bee hives and pollinator plantings on school grounds, to



improvements to the school's nature play area, and to improvements to a nature trail. Students benefit from taking an active role in choosing and planning a project, from learning from outside experts, and from seeing how their work contributes to the school community. Middle school students also participate in citizen science projects such as water quality monitoring and in stewardship projects such as the removal of invasive plants from surrounding natural areas.

Discovery's place-based mission is supported by professional development for teachers, by employing a school naturalist on staff, by maintaining a Place-based Resource Library, and by partnerships with many local education and environmental organizations. The school has

offered on-site professional development for all Discovery teachers from experts from the Indiana Dunes National Park, the Dunes Learning Center, Illinois-Indiana Sea Grant, The STEM Connection, Chemical Educational Foundation and others to empower teachers to incorporate STEM, Great Lakes literacy principles, the 5E instructional model, and environmental and outdoor learning. The school naturalist maintains a Place-based Resource Library with field guides, scavenger hunts, picture books, and ID guides for different types of outdoor lessons, as well as tools for outdoor exploration and for authentic work on the grounds. The naturalist also prepares mini lessons, finds or creates resources for teachers, leads outdoor activities, organizes school-wide events, serves as a point of contact for community partners, and monitors and maintains garden spaces. Local organizations that specialize in conservation, environmental education, local history, art, and community service are valued partners in providing place-based lessons and in exposing students to potential careers in a variety of fields.

To articulate the guiding principles of care for the environment and the healthy body/healthy mind connection, Discovery early on adopted both a "Culture of Care" Policy and a Sustainability Policy, distributed in the Student Handbook. The school community – staff, students, families – strives to model sustainable and healthy living throughout the school day and beyond. Healthy eating is promoted for both students and staff. The school nurse promotes healthy snacks with minimal packaging through a "Nut Safe Snack List" provided each year. In recognition of the amount of time students spend outdoors, the school nurse also provides an annual outdoor safety and tick awareness presentation. The school social worker helps maintain a positive school climate where all students know they belong and are a valued part of the community at Discovery. Staff wellness is incorporated into Discovery's school-wide wellness policy, which is reviewed annually. The school principal encourages staff wellness through resources provided in a weekly newsletter, and grade-level team leaders provide regular check-ins with staff on their personal wellness goals.

In the interest of minimizing waste, electronic communication is favored over paper; re-usable water bottles, food trays, and utensils are part of daily life; and recycling and composting are a priority. A middle school Recycling Club empties classroom recycling bins, a staff Place-based/Sustainability Committee keeps



Middle school boys used an "extractigator" and loppers to remove invasive multiflora rose and honeysuckle from the school grounds in spring 2019.



sustainability in the forefront and proposes improvements in school practices, and a parent-led Sustainability Committee helps implement such things as managing a system to collect and recycle hard-to-recycle items and organizing waste-free lunch contests. A no-idle policy and signage are in place to protect air quality.

During the last quarter of the 2019-20 and the beginning of the 2020-21 school year, the COVID-19 pandemic has necessitated changes to the way Discovery operates, as teachers have navigated through virtual and hybrid learning models. Throughout the changes, however, some unique adaptations have helped to preserve our place-based mission. These have included video “hikes” on the trails near the school, weekly outdoor on-site experiences during the fall semester of virtual learning, virtual environmental lessons through our valued partner the Dunes Learning Center, and dedicating Wednesdays to place-based assignments for students to do at home, many of which take them away from their electronic devices to engage with their environment and communities.

Discovery Charter School’s motto is “Engage. Discover. Grow.” Our students engage with their place in the world as they learn to become “active caretakers for their environment and communities.” As the school continues to grow, the school community and stakeholders are committed to discovering new ways to implement sustainable infrastructure and practices to improve our stewardship of the environment and provide an important context for our students’ learning.



Narrative

Pillar 1: Efforts to Reduce Environmental Impact and Costs

Facilities: Discovery Charter School, founded in 2010, currently employs about 60 staff members to serve about 475 students in grades Kindergarten through 8th. The school is housed in a former office building that was remodeled to create classroom and office spaces, thus avoiding the environmental costs of new construction. In the fall of 2016 a multi-use cafeteria and gym was added, as well as additional classrooms to accommodate a growing student population. The new construction (gym/cafeteria and additional classrooms) includes motion-sensor lights to reduce energy use and water bottle re-fill stations.

Eco-Schools Recognition - Discovery Charter Middle School students undertook the National Wildlife Federation's Eco-Schools project in the 2012-2013 school year. In May of 2013 they earned the school the Bronze Award by auditing energy usage at the school and in May of 2015 a new group of students worked to earn the school the Silver Award by focusing on consumption and waste habits, the schoolyard habitat, and biodiversity efforts on the school grounds. A group of students continued the work and earned the school a Certified Schoolyard Habitat award. The areas of focus that students used to earn Eco-Schools status are energy, biodiversity, consumption and waste, healthy living, and schoolyard habitats. The school is currently working towards a Green Award status for continued efforts to promote healthy living within and around our school.

Grounds: Discovery Charter School is located on the outskirts of the town of Porter, Indiana, adjacent on the north to a parcel of the Indiana Dunes National Park. A trail connects the school grounds to the National Park trail system. The adjacent National Park land provides forest and wetland habitats where students can make observations, encounter local plants and animals, practice stewardship through invasive species removal, and develop a sense of place through repeated visits to familiar locations throughout the seasons.

The school grounds total almost 10 acres. At the time of the school's founding, the grounds included driveways and parking lots, an area with a gravel base, a grassy area with trees in a "park-like" arrangement, and some second-growth deciduous forest. Additions and improvements over the years have included the following:

- a nature play area "The Woods" (2010, improvements in 2017),
- outdoor classroom (permeable paving 2013; improvements in 2019),
- butterfly garden (2014),
- outdoor lunch area with picnic tables, sun shades, and native plantings (2016)
- bee hives and pollinator plantings (2016),
- nature trail on school property (improvements in 2018 and 2019),
- bat houses (2019),
- rain garden (2020),
- re-grading and seeding of gravel area to create a grassy playing field (2020).

A number of these projects were initiated by students, or involved students in their implementation. More on student involvement is included in the narrative for Pillar 3.

Recognitions for native plantings: Native plantings on the grounds have received recognition from the National Wildlife Federation as a certified Schoolyard Habitat, from Monarch Watch for our certified Monarch Waystation (2016) and from the Shirley Heinze Land Trust who awarded the school their "Bringing Nature



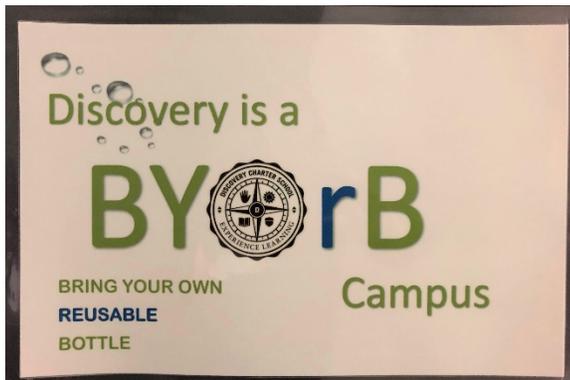
Home” award for the butterfly garden and pollinator plantings (2016). The native plantings were also featured in a local “FarmHop Tour” in 2017 as an example of student involvement in gardening activities.

Waste Reduction: Discovery Charter School embraces the “3 Rs”– Reduce, Reuse, and Recycle – as a guide for waste management.

Reduce and Re-use: Discovery encourages teachers to be aware of paper usage, recommending such measures as using both sides of all papers and using white boards and other paper-free methods for students to show their work. Newsletters and other communication to families and staff are distributed electronically.

To reduce waste in the cafeteria, re-usable trays and silverware are used during meals. Students drink their milk directly from cartons; no throw-away plastic straws are provided. At the end of a meal, students dispose of uneaten fruits and vegetables in a compost container, their milk cartons in a recycling bin, and only what is not compostable or recyclable in a “landfill” waste bin. The compost items are composted in an on-site compost bin built by parent volunteers. Students rake and pile leaves to layer with the food waste in the compost bin. Waste-free lunch contests to measure how much waste each grade level produced raise awareness about waste reduction.

Each classroom has a bin of reusable plates, bowls, cups, and utensils for classroom celebrations, to eliminate the need for disposables; parent volunteers clean the items after use. The staff lounge is similarly supplied with re-usable plates, flatware, and cloth napkins.



Signs around the school remind Discovery students and staff to bring their own reusable water bottles.

The school has instituted a “BYORB” or “Bring Your Own Re-usable Bottle” campaign to discourage single-use plastic water bottles. Bottled water is not sold at school events. When the new wing was built, it included a water bottle re-fill station. Since then, five additional water fountains have been upgraded to include re-fill stations to make re-filling reusable water bottles more convenient. To date, the cafeteria station has saved 48,224 water bottles, and the five newer stations, a combined 10,243.

Recently-purchased classroom scales, hand-held microscopes, and timers were selected to be compatible with rechargeable batteries in order to reduce the need to dispose of batteries.

Recycle: Each classroom has one or two recycling bins – one for paper that goes into a Paper Retriever receptacle, and one for “other” recyclables, such as cardboard, plastic bottles, and aluminum cans that are collected by the local waste handler. Students from the middle school Recycling collect classroom bins twice a week.

The school serves as a community collection point for used household batteries. Used batteries may be dropped off in a special bin in the school lobby; they are then collected for recycling by the Porter County Waste Reduction and Recycling District. The school’s Parent Advisory Committee and its parent-



Club

Discovery Charter School recycles! Bins in the school entryway collect hard-to-recycle items like used-up glue sticks, and plastic bags.



led Sustainability Committee have taken charge of purchasing bins and arranging for recycling of various hard-to-recycle items. At this writing, there are bins for markers, plastic bags and plastic film, cosmetic containers, pill bottles, glue sticks, snack wrappers, and printer ink cartridges. Before the worn-out markers are sent for recycling, the school's art teacher re-uses them to make watercolor paints by soaking used markers of the same color in water to extract the last of the color. Shredded paper from the office is collected and transported to Opportunity Enterprises, a local paper-shredding operation, which has a connection to a recycling facility that can accept shredded paper. The school custodian collects burnt-out fluorescent tubes that are taken for recycling to a local hardware store.

Transportation: Because Discovery draws students from a fairly wide geographic area, encompassing primarily Lake, Porter and LaPorte counties, a bus system has not been feasible. Only a handful of students live close enough to walk to school. Parents are encouraged to carpool through a sign-up on a parent Facebook page. In 2012 Discovery engaged in a school-wide air quality awareness effort which involved grade-level-appropriate student learning activities, and which culminated in the school instituting a no-idle policy for drivers dropping off or picking up students. No-idle signs were procured and installed to remind drivers to turn off their vehicles while waiting to drop off or pick up students. Both the policy and the signs remain in place. The Parent Advisory Committee has organized occasional "walk to school" events, in which students who live too far away to walk to school meet at the nearby Dunes Visitor Center and walk to school on a trail from that location to raise awareness of the health benefits of walking and the energy cost of vehicles.

Pillar 2: Improved Health and Wellness of Students and Staff

As articulated in Discovery's "Culture of Care" policy, concern for health and wellness go hand-in-hand with our concern for student success and the school community's emphasis on "the care of the environment and the healthy mind/body connection". Highlights of how this is implemented are outlined in the following sections.

Physical environment: Discovery's water comes from an onsite well that is tested monthly for iron and lead. Furnace air filters are changed regularly to maintain air quality. Pest control is handled by a local company that is "Green Pro" certified. Cleaning products used at the school are reviewed and approved by the school nurse to make sure they meet standards of health and environmental safety.

Particular attention has been paid to the safety of students with nut allergies. All classrooms are designated as nut free. In the cafeteria and outdoor lunch area there are designated nut-free tables. An outdoor lunch area with picnic tables and sun shades is used as often as possible to allow for students to have fresh air and to enjoy the sights and sounds of nature while eating their lunches.

Nutrition and nutrition education: School lunches are provided to Discovery students through a food service (Taher). A School Lunch Advisory Board meets as necessary to address any needs or concerns. The emphasis is on providing high quality and nutritious food. Discovery does not accept USDA Foods (commodities). All school lunches are nut-free. There is always a vegetarian main dish option. Students are encouraged to bring snacks, and the school nurse publicizes a "Nut-Safe Snack List" each year, a list of acceptable snacks that are nut-free, healthful, and sustainable (discouraging individual packaging where possible). Nutrition education is incorporated into classroom learning, with a special nutrition unit provided to middle school students by the PE teacher.



Emotional/psychological support: Discovery has a full-time school social worker who provides support for students as needed, individually and through small support groups. She provides training for staff (bullying, suicide prevention, child abuse, etc.) and organizes school-wide service projects, including an annual food drive for the local food pantry, and an “Angel Tree” for families in need of assistance with holiday gifts. In 2018-19 staff completed “Love and Logic” training and offered evening classes for parents as well. The school uses Student Success Skills curriculum in grades K-8 to offer students strategies to help them master their schoolwork and develop healthy habits, caring relationships and encouraging classroom communities. In response to the pandemic, the school social worker implemented Mindset Matters, which is a curriculum to support positive and growth mindset. Discovery supports an approach to discipline that emphasizes celebrating the positive, as exemplified by the use of “golden tickets” to celebrate kindness, responsibility, hard work, and signs of progress great and small. Discovery also implements PBIS strategies to support behavior management in the classrooms.

Outdoor physical activity: Outdoor activities are expected and supported at Discovery. Students are expected to dress for outdoor activities every day. Physical Education classes take place outside approximately 50% of the time. As mentioned above, lunch is held outdoors whenever the weather permits. Outdoor recess includes access to the nature play area under a canopy of trees with stumps, logs, and sticks for building. Teachers plan at least weekly outdoor learning opportunities – a hike on one of the trails, hands-on learning projects, or stewardship projects – depending on the grade level and the season. Easy access to the National Park trails encourages walking excursions; fourth and fifth grade students have undertaken all-day walking excursions to the Indiana Dunes State Park, approximately 4 miles round trip.

Health services and education: Discovery has a full-time school nurse. The nurse provides care as needed, and also coordinates plans for students with severe allergies or health care concerns such as diabetes. She organizes vision screening and dental care opportunities. She provides staff training and training for students as needed. Because of the emphasis on outdoor learning, she has developed a special presentation for students on outdoor safety and prevention of tick bites.



Discovery students played in “The Woods” outdoor nature play space during their recess in the spring of 2017.

Staff wellness: Staff health and wellness is a priority of school administration. Staff wellness is included in the school-wide wellness policy that is reviewed annually. It includes a commitment to healthy snacks for teachers and staff, encouragement for participation in community walking, biking, and running events, and support for breastfeeding. The school principal encourages staff members to set wellness goals and regularly provides wellness resources and encouragement in the weekly staff newsletter. Grade level team leaders check in regularly to monitor and celebrate progress on personal wellness goals.

Family and community involvement: Community and family involvement are expected at Discovery and are viewed as key to the success of the school. The Parent Advisory Committee (PAC) is very active in organizing parent volunteers to help in the cafeteria, at “carline” pick-up, planning classroom celebrations, organizing work days on the grounds, washing the re-usable cloths used to clean the cafeteria tables, providing snacks for the



teachers, managing uniform sales, and assisting in classrooms, to name a few of the many ways parents are involved. PAC raises funds through SCRIP sales, and generally holds two major fundraising events each year, including a “Fall Fest” that brings the whole school community together to enjoy food, games, and activities for all ages. PAC secures sponsors from the community for these events. PAC’s fundraising has helped to provide the school with technology (Chromebooks), enhanced recycling opportunities, ensured that all students are able to participate in overnight learning experiences regardless of financial situation, supported after-school clubs, funded improvements on the grounds, and much more. PAC’s Sustainability Committee works with school staff to support sustainability practices and education.

Families are also involved in school-wide environmental and service events, such as Eco Night and the annual Adopt-a-Beach cleanup. The communities near the school are considered not only to be supporters of the school, but resources for learning as teachers draw on them for guest speakers and for sites for learning experiences as described in Pillar 3.

Pillar 3: Effective Environmental and Sustainability Education



Students have weekly field experiences on the school grounds or the nearby trail into Indiana Dunes National Park. This second grade class took a hike in the fall of 2020 to look for items that started with different letters of the alphabet.

Place-based education is the core concept upon which Discovery Charter School was founded. In general, it refers to education that is grounded in the communities of the students, including their ecological, economic, and cultural environment. Place-based education pulls in real-world, local opportunities and issues to make learning relevant to students’ lives and experience. This approach aims to increase student engagement, boost academic outcomes, and guide students to become active participants and stewards of their environment and communities.

Discovery’s curriculum framework is aligned to the state standards, with the expectation that teachers will create opportunities throughout the curriculum to connect learning to our place. In addition, Discovery has adopted standards for each grade level based on

the Great Lakes Literacy Principles (Center for Great Lakes Literacy), in recognition of our place in the Great Lakes watershed. Discovery depends on a wide variety of community partners “to develop a sense of community and a student’s place in it”, many of whom are mentioned in the following narrative.

Environmental education and sustainability throughout the curriculum: Teachers use our place as a resource for learning across subject areas. As teachers teach the state standards – across all subject areas - they find ways to incorporate the local environment, take learning outdoors, implement related STEM challenges, make learning authentic, create projects that are interdisciplinary, and incorporate service to the school and/or surrounding community. Here are just a few examples from recent years to give a flavor of the many experiences of Discovery students:



- Kindergarten students use their five senses on the trail to explore the forest adjacent to the school. They visit the Coffee Creek Watershed Preserve once a month throughout the school year to observe seasonal changes.
- 1st graders learning about soil participate in a hands-on program by the Porter County Soils and Water Conservation educator, then explore different soils on school grounds and use soil colors to paint; finally, they put together a classroom worm bin to observe soil formation in action.
- 2nd graders learning about weather, create structures to withstand different “wind speeds” from a fan (STEM challenge).
- 3rd graders hunt for examples of common and proper nouns (or other parts of speech) as they hike the trail; 3rd graders participate in a virtual “Nature Navigators” program in which educators from the Dunes Learning Center link local examples and fun activities to grade level science standards;
- 4th graders learning about Indiana history do research using primary sources at the Westchester Township History Museum and write illustrated reports; in early spring 4th graders learn to identify and tap maple trees on school grounds; they calculate quantities of sap and syrup by applying volume conversions and adding fractions.
- 5th graders learn about energy sources, energy use, and conservation from speakers from the local power company NIPSCO; students receive Take Action Kits filled with energy saving products for their home.
- 6th graders learn to identify invasive plants in the field and to use appropriate tools to remove them from the native forest ecosystem.
- 7th graders identified the need to improve the school’s nature play area through an “Earth Force” project. They learned from a local expert from the Indiana Dunes National Park, researched outdoor play elements, built a sign, wrote letters to request donations, installed a boundary rope, planted native plants to restore surrounding forest land, and created a video for fellow students.
- 8th graders worked with the school naturalist and the technology teacher to procure labels for native plants along a school nature trail, complete with QR codes linking to student research on each plant.

Teachers invite guest speakers from a wide range of local organizations, including Indiana Department of Environmental Management, Indiana Dunes State Park, Humane Indiana Wildlife, Porter County Recycling and Waste Management District, Indiana University Northwest, and Lubeznik Center for The Arts, in addition to those mentioned above, as well as local police officers, firefighters, authors, and others. These experts provide connections to the community and examples of career opportunities for students to consider. Students can extend their interest in STEM through participation in Science Olympiad and Robotics teams. A newly-formed staff STEM committee has been meeting to pursue STEM certification for the school.

Learning experiences off site: Off-site learning experiences (field trips) focus on exploring nearby towns, experiencing environmental education with educators at local parks and natural areas, as well as local museums of science, history, and art. Students also make excursions to world-class museums in Chicago such as the Museum of Science and Industry of Science and Industry, Adler Planetarium, and the Art Institute of Chicago.

To provide students with additional in-depth, immersive outdoor learning experiences, all students in fourth grade and above have the opportunity to participate in overnight excursions. Fourth graders each year experience a 2-day, one-night pioneer program at Camp Tecumseh. Fifth graders spend 3 days and 2 nights at the nearby Dunes Learning Center learning about the history of land use and the biodiversity of the Indiana



Dunes. 6th and 7th graders spend alternate years at Bradford Woods (Indiana) and Howell Nature Center (Michigan), where they have the opportunity to experience adventure education challenges (high ropes or climbing tower) in addition to environmental education in different settings. Eighth graders take a trip to Washington, DC to reinforce their study of American history.

Service learning / Stewardship: An important aspect of Discovery’s learning environment is living what we learn. Classroom recycling bins are collected twice weekly by a middle school Recycling Club whose members also educate their fellow students about better recycling habits. Students often participate in raking and hauling leaves for our compost bin. Middle school students pick up litter as part of the Adopt-a-County-Road program. In the school butterfly garden, students have been involved in digging, hauling compost, planting, weeding, and evaluating the garden for Monarch Waystation certification. Third, fourth, and fifth grade students gained stewardship experience during several years of Mighty Acorns programming led by environmental educators from the Dunes Learning Center and Shirley Heinze Land Trust.



Middle school students helped a younger class plant zinnias along the border of the butterfly garden in the spring of 2016.

Middle school students have engaged in interdisciplinary learning using the “Earth Force” framework to identify a problem to solve and to come up with a plan and the resources to implement their solution. Earth Force projects resulted in the installation of honeybee hives and pollinator plantings (2016), improvements to the Nature Play Area (2017), and renovation of a nature trail on school property (2018). Several of these projects involved fund raising and/or reaching out to the community for donations. Friends of Indiana Dunes has been a generous partner, responding to student requests for donations from their native plant sale for a number of years.

Citizen science: Participation in citizen science is another way of making learning authentic, engaging in the real world, and making a contribution to the scientific community. Eighth grade students have participated in water quality sampling through Hoosier Riverwatch several years (most recently in 2019). Middle school students have also collected beach litter data for the Alliance for the Great Lakes, and recently contributed data to the Ant Picnic citizen science project (2020).

Career preparation: Providing opportunities for students to make contributions through citizen science and stewardship projects empowers them to see themselves as active caretakers of their communities. Students routinely hear from community members from a variety of professions. In addition, the school social worker organizes a “College Go” week to raise awareness about career and college paths open to students. Eighth graders participate in a “Reality Store” experience organized by the local school district.



School-wide activities / Family and community involvement: Discovery has a tradition of holding a “Migration Celebration” each year, rotating by year through celebrations of three migrating species from our area: saw-whet owls, sandhill cranes, and monarch butterflies. School-wide activities are planned each year, including owl adoptions, excursions to view sandhill cranes, and participation in Journey North’s “Symbolic Monarch Migration” with students in Mexico. The creation of the school’s butterfly garden was inspired by the first of the monarch celebrations in 2013-14.

Families are involved in the popular Eco-Night or Family Nature Night, organized at the school by the Porter County Izaak Walton League. This event brings together representatives from many environmental groups with family-friendly games, activities, displays, and live animals. Each year the entire school community is invited to participate in a September Adopt-a-Beach clean-up and data collection in cooperation with the Alliance for the Great Lakes, held at a nearby Lake Michigan beach. Discovery connects with the wider community through an annual booth - staffed by teachers, parents, and students - at the Northwest Indiana Earth Day.



Discovery staff and families cleaned up the beach at the Indiana Dunes State Park and reported litter data to the Alliance for the Great Lakes for the September Adopt-a-Beach campaign in 2019.

School naturalist and Place-based Resource Library: Discovery employs a full-time school naturalist to help teachers fulfill the mission of place-based education. This may involve the naturalist leading outdoor activities, preparing “Signs of the Season” displays in the school, alerting teachers to trail conditions and seasonal happenings on the land, preparing place-based lessons that reinforce the curriculum, providing resources, organizing school-wide events, serving as a point of contact for community partners, monitoring and maintaining garden spaces and more. The school naturalist maintains a Place-based Resource Library with books, trail maps, scavenger hunts, field guides and other resources that teachers may borrow. The library also houses an assortment of tools for field work including compasses, magnifying glasses, nets, bug boxes, gardening tools, safety equipment, and measuring tools.

Professional development: Discovery has promoted and offered professional development opportunities for teachers in the realm of environmental, outdoor, place-based, and STEM education. Many teachers have completed trainings in “Project Learning Tree”, “Great Lakes in My World”, and “Project Wild”. The school has scheduled training sessions for all teaching staff by experts from the Indiana Dunes National Park, the Dunes Learning Center, Indiana Illinois Sea Grant, The STEM Connection, Chemical Educational Foundation and others to empower teachers to incorporate STEM, Great Lakes literacy principles, the 5E instructional model, and outdoor learning.



COVID-19 virtual learning adaptations: Virtual learning necessitated by the COVID-19 pandemic has presented challenges to hands-on learning. In spring of 2020, for instance, 7th graders learned about rain gardens and secured a donation of native plants during remote learning. Then they followed the progress of the installation of the rain garden via videos created by the school naturalist. Discovery offered a unique opportunity during the first quarter of the 2020-21 school year for students to come to the school grounds one grade level at a time for a one-hour outdoor only “on-site experience”, with masks and social distancing in place. Teachers organized STEM challenges, a citizen science project, observations in the butterfly garden, scavenger hunts and more to help keep the outdoor and place-based element of our school in place during this challenging time. Currently, our valued partner, the Dunes Learning Center, is offering a virtual “Nature Navigators” program for 3rd, 4th, and 5th grades. They use interactive virtual activities and local examples to teach grade level science standards. Each Wednesday teachers assign place-based projects for students and families that are designed to get them away from their electronic devices and engaging with the world around them.



Students worked together on an outdoor STEM building challenge in fall 2020.