## Budget

**Wildwood Environmental Academy (000222) - Lucas County - 2015 - Straight A Fund - Rev 0 - Straight A Fund - Application Number (270)**

### U.S.A.S. Fund #:

#### Plus/Minus Sheet (opens new window)

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**Adjusted Allocation** 0.00

**Remaining** -1,000,000.00
A) APPLICANT INFORMATION - General Information

1. Project Title:
Demonstrating Sustainable Green Practices to Develop "Environmentally Responsible Citizens"

2. Executive summary: Please limit your responses to no more than three sentences.
Wildwood Environmental Academy (WEA) has gathered a group of partners with expertise in green science, engineering, and sustainability to further WEA's mission of molding "environmentally responsible citizens". These partners will work to achieve three goals: (1) increase student science achievement by 10% each academic year, (2) increase inquiry-based lessons to 20% of the overall curriculum in the first year of implementation, reaching at least 50% by the end of five years and (3) decrease annual costs by at least $20,000 through reduced energy usage and paper consumption. These will be accomplished by: (1) developing an inquiry-based education program featuring a land laboratory, (2) converting the school to its own solar and wind-generated energy sources, and (3) creating technology-integrated classrooms-including tablets, laptops, and interactive whiteboards.

This is an ultra-concise description of the overall project. It should not include anything other than a brief description of the project and the goals it hopes to achieve.

350 3. Total Students Impacted:
This is the number of students that will be directly impacted by implementation of the project. This does not include students that may be impacted if the project is replicated or scaled up in the future.

4. Please indicate which of the following grade levels will be impacted:
- Pre-K Special Education
- Kindergarten
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

5. Lead applicant primary contact: - Provide the following information:
First Name, last Name of contact for lead applicant
Elizabeth Lewin
Organizational name of lead applicant
Wildwood Environmental Academy
Address of lead applicant
1628 Henthorne Maumee, OH 43537
Phone Number of lead applicant
(419) 868-9885
Email Address of lead applicant
elizabeth.lewin@leonagroup.com

6. Are you submitting your application as a consortium? - Select one checkbox below
- Yes
- No
If you are applying as consortium, please list all consortium members by name on the "Consortium Member" page by clicking on the link below. If an educational service center is applying as the lead applicant for a consortium, the first consortium member entered must be a client district of the educational service center.
Add Consortium Members
7. Are you partnering with anyone to plan, implement, or evaluate your project? - Select one checkbox below

Yes  No

If you are partnering with anyone, please list all partners by name on the "Partnering Member" page by clicking on the link below.

Add Partnering Members

B) PROJECT DESCRIPTION - Overall description of project and alignment with goals

8. Describe the innovative project: - Provide the following information

The response should provide a clear and concise description of the project and its major components. Later questions will address specific outcomes and the measures of success.

The current state or problem to be solved; and

Since WEA is focused on developing "environmentally responsible citizens who work and volunteer in their community to make a difference", the school places an emphasis on environmental sciences to foster a stewardship of the earth. The desired results on student standardized science tests scores have not been achieved. For example, on the fall 2013 Plan, Explore, and Engage ACT Science test, 32%, 34%, 5%, and 8% of 7th, 8th, 9th, and 10th graders, respectively, obtained proficient or near-proficient scores. A large contributing factor to this outcome is a lack of hands-on science lessons, because many of the teachers lack the professional training and resources to properly combine them into their curriculum and create an inquiry-based approach. WEA seeks to mold "environmentally responsible citizens", so that mission must be modeled in the overall school's choices. The school can be a better advocate for the environment in its energy consumption and paper usage. WEA's excessive consumption of energy can be partly attributed to a lack of programmable thermostats in half of the classrooms. The school spends between $8,000 - $10,000 on paper and related copier expenditures every year. This is largely due to the photocopying of necessary supplemental teaching materials. WEA follows practices to recycle and reuse paper and print on both sides to reduce the amount of paper consumption. However, the school can model more responsible eco-friendly paper usage and reduce the amount of money spent on paper each year. As WEA pushes forward with integrated inquiry-based learning approaches, its efforts are often hampered by the lack of usable technology in the school. WEA staff use personal lap tops, and share classroom technology. All 350 students must share access to one lab with 28 computers. The Internet server is sluggish and unreliable. It often resets on students while they are working. This limits access to essential technology for students to be successful.

The proposed innovation and how it relates to solving the problem or improving on the current state.

In order to resolve the issue of low student science achievement, WEA will create an inquiry-based science program that features a land laboratory, a plot of land reserved for biological studies. In a study found in the journal Learning Disabilities Research and Practice, Villanueva and Hand (2011) report students with and without disabilities improved critical thinking, analysis, and problem solving skills through inquiry-based investigations. WEA will develop this program by leveraging the expertise of local community partners: the University Church Community Garden (UCC), the Toledo Zoo, and the University of Toledo. Through this collaboration, they will create a student-maintained land laboratory, develop an inquiry-based science curriculum and conduct professional development courses for WEA teachers on its implementation. In WEA's efforts to be more responsible stewards of the earth, the school will seek to provide for its own energy needs through solar power and move toward a more paperless classroom. Solar panels will be installed and maintained by Rudolph/Libbe Inc. Given Ohio's huge reliance on fossil fuel generated electricity, the school will serve as a demonstration of how renewable energy sources can successfully provide for electricity needs. In addition, the project will better integrate technology across the curricula and will be utilized for electronic data collection in the inquiry-based education program. These steps will help reduce the environmental impact of high paper usage.

9. Which of the stated Straight A Fund goals does the proposal aim to achieve? - (Check all that apply)

Applicants should select any and all goals the proposal aims to achieve. The description of how the goals will be met should provide the reader with a clear understanding of what the project will look like when implemented, with a clear connection between the components of the project and the stated goals of the fund. If partnerships/consortia are part of the project, this section should describe briefly how the various entities will work together in the project. More detailed descriptions of the roles and activities will be addressed in Question 16.

[ ] Student achievement (Describe the specific changes in student achievement you anticipate as a result of this innovation (include grade levels, content areas as appropriate) in the box below.)

The goal of this project is to improve student science achievement scores. Students in grades 6-12 at WEA are assessed internally by the Plan, Explore, and Engage ACT Science test. Using science scores from the beginning of the year as the baseline, WEA targets a 10% increase of students scoring proficient each academic year. Student achievement in science will be increased by integrating an inquiry-based curriculum involving environmental science. By actively engaging students, this program will expand their knowledge beyond textbooks and encourage ownership over their education. A nationwide study (Hoody and Lieberman) suggests that teaching all content areas integrated with environmental education raised standardized measures of achievement. WEA has reached out to several experts in these methods to create the best possible approach and training program: the University Church Community Garden (UCC), the Toledo Zoo, and the University of Toledo. At the core of this project, UCC will create a land laboratory where students will be directly involved in the cultivation, care, and study of a variety of native and food-producing plants. Their farm managers will co-teach 60 field trips at the land laboratory where students will participate in inquiry-based research projects involving bee pollination, investigation of plant growth, and human impact on the environment, among many others. Students will participate in citizen science projects, where students and their families collect and report data on the environment for a larger database that scientists use to make decisions. The Toledo Zoo will develop an inquiry-based science curriculum and conduct professional development courses for WEA teachers on its implementation. They will conduct student site visits and aid in the instruction of different hands-on research lessons including methods for how to use the rain garden and native garden. The University of
Toledo's Dr. Isabel Escobar will lead five environmental engineering projects, five science days, and a teacher professional-development series, which will enhance their ability to incorporate environmental education in their classes. Every classroom will have a different environmental science demonstration project that will be integrated into the teachers' curriculum. WEA has an aquaponics tank to illustrate sustainable eco-friendly farming practices. WEA maintains a greenhouse, rain garden, native garden, composting, recycling, and terracycling programs, which will be further integrated into student lessons. Each classroom will be equipped with iPads, Learn Pads, and interactive whiteboards for more engaging activities and to better enable teachers to develop inquiry-based lessons. Teachers will have access to Mac Book Pros, and a new Internet server.

Spending reductions in the five-year fiscal forecast or positive performance on other approved fiscal measures (Describe the specific reductions you anticipate in terms of dollars and spending categories over a five-year period in the box below or the positive performance you will achieve on other approved fiscal measures. Other approved fiscal measures include a reduction in spending over a five-year period in the operating budget approved by your organization’s executive board or its equivalent.)

WEA expects to reduce annual cost by at least $20,000 annually. Over a five year period this will equate to $105,000 in savings. The largest savings will come from installation of solar panels that will yield a $15,000 saving yearly. This information is based on WEA's yearly kilowatt hour consumption from Toledo Edison, and a Rudolph Libbe solar professional. Additional savings of $450 is expected from the installation of programmable thermostats in the classrooms. As stated by RWL Analytics, "using an Energy Star-certified programmable thermostat produced an average savings of about "6.2% of total household annual natural gas consumption". Included in this savings estimate is reduction in cost of $4,000-$5,000 of paper related items such as books/papers and copier related items. Additionally the upgrade to the wireless system and server will also produce a cost saving of $1440 with eliminating the need for a cable modem. Our school spends an estimated $30,000 on electricity each year. In order to reduce this cost, First Solar and Rudolph/Libbe Inc. will install solar panel arrays that will convert all buildings on school grounds to run on solar-generated electricity. They are providing solar panels for us at a reduced cost and as an educational component to share with students and staff. Rudolph/Libbe Inc. in partnership with First Solar will be responsible for the installation, operation, and maintenance of the solar panels. They will also advise WEA on further energy-saving measures. In addition, wind turbines will be installed on WEA grounds to charge iPads, and programmable thermostats will be fitted in the classrooms to save on energy bills. In addition, WEA spends an estimated $5,800 on paper every year. In order to reduce these costs, WEA will work toward its long-term goal of nearly paperless classrooms by equipping them with iPads, Learn Pads, and Interactive whiteboards. Furthermore, teachers will have access to Mac Book Pros. With this technology, the school will be able to use electronic books, articles and worksheets to reduce the amount of paper consumed. These steps will help reduce our paper usage by 25% per year and model for the students how to be responsible stewards of the earth.

Utilization of a greater share of resources in the classroom (Describe specific resources (Personnel, Time, Course offerings, etc.) that have been enhanced in the classroom as a result of this innovation in the box below.)

In order to offer inquiry-based environmental science lessons as 50% of all curricula after five years, the school will provide a more enriching experience for the students through better physical resources, an enhanced curriculum, and additional teacher professional development to best utilize those tools. First, the school will have better physical resources in the creation of a land laboratory and better technology in the classroom. The University Church Community Gardens (UCC) will create a land laboratory on their property for students in grades K-12 to learn environmental education practices through inquiry-based lessons. This land laboratory will be the site of field trips where students will participate in research projects. Classrooms will be equipped with iPads, Learn Pads, and Interactive Projectors. Mac Book Pros and a new Internet server will be installed. With this technology, the school will be able to make use of electronic books, articles and worksheets. Also, teachers and students will then have access to technology in collecting and analyzing the data from the inquiry-based projects. K-5 will be issued Learn Pads in the classroom environment, each student and teachers will be utilizing technology to enhance the classroom experience. 30 Learn Pads per classroom and a cart for easy storage and charging. The Learn Pad offers greater teacher controls and interactivity which makes it ideal for grades K-5 to use. Students and teachers will be able to both use interactive white board during lessons. The pad will be incased in a hard durable casing and students will only using in school and not at home. Teachers have the ability to monitor what students have access to at all times and whether or not they are following along with the lesson. The Learn Pad also comes equipped with a wonderful GPS feature to locate the device at any time. iPads will be housed in cart units for grades 6-12 and each student and teacher will be have access to one unit. This will allow collaboration with students in groups as well as teachers in the classroom, using the interactive white board to engage and foster in depth lessons and materials. Each iPad will come with a sturdy case and internet protocol will prohibit students from accessing material not school related while on school grounds. Installation of interactive projectors in all classrooms will enhance the learning environment for students and teachers. Technology in the classroom will provide opportunities for growth and enrichment across all curriculums. Second, the Toledo Zoo’s inquiry-based learning curriculum, aligned to Common Core and Ohio’s Model science curriculum will be adopted for use in WEA lessons. This curriculum will be used for the land laboratory fields and special demonstration projects in each classroom. Third, the University of Toledo's Chemical and Environmental Engineering Department will develop a professional development series tailored to WEA's mission statement. This series will align with field trips to the university and science days at our school.

Implementing a shared services delivery model (Describe how your shared services delivery model will demonstrate increased efficiency and effectiveness, long-term sustainability, and scalability in the box below.)

10. Which of the following best describes the proposed project? - (Select one)
- New - never before implemented
- Existing: Never implemented in your community school or school district but proven successful in other educational environments
- Mixed Concept: Incorporates new and existing elements
- Established: Elevating or expanding an effective program that is already implemented in your district, school or consortia partnership
**C) SUSTAINABILITY - Planning for ongoing funding of the project, cost breakdown**

11. Financial Documentation: All applicants must enter or upload the following supporting information. The information in these documents must correspond to your responses in questions 11-14.

- Enter a project budget in CCIP (by clicking the link below)
- *If applicable, upload the Consortium Budget Worksheet (by clicking the link below)
- *Upload the Financial Impact Table (by clicking the link below)
- *Upload the Supplemental Financial Reporting Metrics (by clicking the link below)

**Upload Documents**

For applicants without an ODE Report Card for 2012-2013, provide a brief narrative explanation of the impact of your grant project on per pupil expenditures or why this metric does not apply to your grant project instead of uploading the Supplemental Financial Reporting Metric.

The project budget is entered directly in CCIP. For consortia, this project budget must reflect the information provided by the applicant in the Consortium Budget Worksheet. Directions for the Financial Impact Table are located on the first tab. Applicants must submit one Financial Impact Table with each application. For consortium applications, each consortium member must add an additional tab on the Financial Impact Tables. Partners are not required to submit a Financial Impact Table.

Applicants with an "Ohio School Report Card" for the 2012-2013 school year must upload the Supplemental Financial Reporting Metrics to provide additional information about cost savings and sustainability. Directions for the Supplemental Financial Reporting Metrics are located on the first tab of the document. If your organization does not have an "Ohio School Report Card" for the 2012-2013 school year, please provide an explanation in the text box about how your grant project will impact expenditures per pupil or why expenditure per pupil data does not apply to your grant project.

Educational service center, county boards of developmental disabilities, and institutions of higher education seeking to achieve positive performance on other approved fiscal measures should submit the budget information approved by an executive board or its equivalent on the appropriate tabs of the Financial Impact Table. Educational service centers should use the "ESC" tab and county boards of developmental disabilities and institutions of higher education should use the "non-traditional" tab.

**12. What is the total cost for implementing the innovative project?**

Responses should provide rationale and evidence for each of the budget items and associated costs outlined in the project budget. In no case should the total projected expenses in the budget narrative exceed the total project costs in the budget grid.

| 1,000,000.00 | State the total project cost. |

* Provide a brief narrative explanation of the overall budget.

The project will require new computers, white boards, servers, iPads, interactive projectors and the necessary upgrades to the infrastructure to support the additional work stations ($699,000). Support services will include a project manager and additional IT support ($155,000). The project manager will be a reassigned teacher and a replacement will have to be hired ($59,000). Additional supplies will be needed to support students and teachers as the project is implemented ($12,000). The plan includes significant professional development for teachers in order to maximize the benefits of the new technology ($45,000). The implementation team will plan parent involvement activities to support students and teachers ($8,000). Funds have been budgeted for preparation of the land lab and other facilities for student use ($12,000). The plan includes a number of field trips to enhance student learning experiences. This will require additional transportation ($10,000).

**13. Will there be any costs incurred as a result of maintaining and sustaining the project after June 30th of your grant year?**

Sustainability costs include any ongoing spending related to the grant project after June 30th of your grant year. Examples of sustainability costs include annual professional development, equipment maintenance, and software license agreements. To every extent possible, rationale for the specific amounts given should be outlined. The costs outlined in the narrative section should be consistent and verified by the financial documentation submitted and explained in the Financial Impact Table. If the project does not have sustainability costs, applicants should explain why.

- **Yes** - If yes, provide a narrative explanation of your sustainability costs as detailed in the Financial Impact Table in the box below.

  WEA anticipates the cost of maintaining partnerships and inquiry based learning programs as follows: transportation will be provided by a charter bus for a total of 30 trips each school year at a cost of $7,500. Technology replacement for lost or damaged equipment has been allocated at $3,000 or 1% of total cost. Alternative energy equipment cost for maintaining the wind turbine and solar panels $3500. Preparation of land lab during off season will be a cost of $1800 for the first year and then $1500 afterward. UCC will charge a cost of $1500 for instruction and $100 for material related to land lab start up. Affiliation with University of Toledo will be an ongoing expense of $400 for years two through five. WEA has agreed to continue partnership with Toledo Zoo for $400 every year after the initial start of grant. All ongoing costs will be offset by expected savings.

- **No** - If no, please explain why (i.e. maintenance plan included in purchase price of equipment) in the box below.

**14. Will there be any expected savings as a result of implementing the project?**
15. Provide a brief explanation of how the project is self-sustaining.

All Straight A Fund grant projects must be expenditure neutral. For applications with increased ongoing spending as documented in question 11-14, this spending must be offset by expected savings or reallocation of existing resources. These spending reductions must be verifiable, permanent, and credible. This information must match the information provided in your Financial Impact Table. Projected additional income may not be used to offset increased ongoing spending because additional income is not allowed by statute. Please consider inflationary costs like salaries and maintenance fees when considering whether increased ongoing spending has been offset for at least five years after June 30th of your grant year. For applications without increased ongoing spending as documented in questions 11-14, please demonstrate how you can sustain the project without incurring any increased ongoing costs.

For educational service centers and county boards of developmental disabilities that are members of a consortium, any increased ongoing spending at the educational service center or county board of developmental disabilities may also be offset with the verifiable, permanent, and credible spending reductions of other members of the consortium. This increased ongoing spending must be less than or equal to the sum of the spending reductions for the entire consortium.

Explain in detail how this project will sustain itself for at least five years after June 30th of your grant year.

WEA's project will be ensured by having a savings of $20,000 which exceeds the total yearly cost of $15,000 for sustaining the Straight A grant project. Savings will come from the reduction of energy usage and fewer books and paper related products, as well as eliminating modem rental and the installation of programmable thermostats. Annual costs to continue the grant program include transportation for field trips, technology replacement, solar panel maintenance and continued use of the land lab. Partnerships and educational collaboration between Wildwood staff and experts from the Toledo Zoo and the University of Toledo will continue for a small fraction of the first year's cost. Continuing programs with the University of Toledo, University Community Church, and the Toledo Zoo will indoctrinate teachers in the methods of inquiry based curricula. The Toledo Zoo and the University of Toledo will conduct quarterly consultations with staff members to ensure lessons learned from the first year's professional developments are ongoing. UCC will meet with students and staff the first hour of every field trip during years two through five to guarantee methods are being incorporated appropriately. The School Science Improvement Committee (SSIC) will be responsible for fostering an environment of continued environmental education amongst new staff members and for maintaining partnerships with project collaborators. Technology replacement will be covered by a 1% materials reserve fund of $3,000 per year for lost, stolen, and damaged pieces. UCC has volunteered to cover maintenance of wind turbine at no additional cost for year two through five. The estimated cost by Rudolph/Libbe for maintenance of solar panels is $3500 per year.

**D) IMPLEMENTATION - Timeline, scope of work and contingency planning**

16. Please provide a brief description of the team or individuals responsible for the implementation of this project, including other consortium members and/or partners.

This response should include a list of qualifications for the applicant and others associated with the grant. If the application is for a consortium or a partnership, the lead should provide information on its ability to manage the grant in an effective and efficient manner. Include the partner/consortium members' qualifications, skills and experience with innovative project implementation and projects of similar scope.

Enter Implementation Team information by clicking the link below:

Add Implementation Team

For Questions 17-19 please describe each phase of your project, including its timeline, scope of work, and anticipated barriers to success.

A complete response to these questions will demonstrate specific awareness of the context in which the project will be implemented, the major barriers that need to be overcome and the time it will take to implement the project with fidelity. A strong plan for implementing, communicating and coordinating the project should be outlined, including coordination and communication in and amongst members of the consortium or partnership (if applicable). It is recognized that specific action steps may not be included, but the outline of the major implementation steps should demonstrate a thoughtful plan for achieving the goals of the project. The timeline should reflect significant and important milestones in an appropriate and reasonable time frame.
17. Planning - Activities prior to the grant implementation

* Date Range: July 2014 - August 19, 2014

* List of scope of work (activities and/or events including project evaluation discussions, communication and coordination among entities).

Ongoing A Team meetings for project evaluation. Develop/ schedule teacher professional development with the Toledo Zoo, the University of Toledo, and University Church Community Garden for environmental education program. Develop/ schedule University of Toledo Science Days and field trips for students. Schedule /install server system upgrade, classroom hardware, teacher iPads and Mac Book Pros, and student Learn Pads. Develop/ schedule teacher professional development for new hardware/ software. Plan/ install solar panel arrays on-site with First Solar/Rudolph Libbe Inc. Plan/ install two small wind turbines on-site. Plan/ install Wildwood Environmental Academy’s land laboratory at the University Church Community Garden Site in conjunction with The Toledo Zoo. Plan teacher/ staff project kick-off at The Toledo Zoo.

* Anticipated barriers to successful completion of the planning phase

The release of grant funds date will provide a small window in which to have the solar panel arrays installed at the school site prior to the new school year, which starts less than one month after the announcement of grant winners. WEA will have a preliminary schedule in place with Rudolph Libbe Inc. for construction at the end of July 2014 to early August 2014 to resolve this issue.

18. Implementation - Process to achieve project goals

* Date Range: August 20, 2014 - May 29, 2015

* List of scope of work (activities and/or events, including deliverables, project milestones, interim measurements, communication, and coordination).

Back-to-School Teacher/Staff Straight A Fund Project Kick-off; Quarterly professional development events for teachers over new technology training and environmental education in partnership with the University of Toledo and The Toledo Zoo, as it relates to the student land lab and inquiry education in the classroom. Beginning and end-of-year ACT assessments of science for grades 6-12, which will serve as pre and post benchmark measurements to determine the successful implementation of our innovative idea. Approximately 60 student field experiences to The University of Toledo, The University Church Community Garden and The Toledo Zoo that will support the land lab inquiry experience.

* Anticipated barriers to successful completion of the implementation phase.

Anticipated barriers to successful completion of the implementation phase could include: Inclement weather would hinder our ability to have students working and studying in the field at the land lab. Mastery of new technology may require more training for some than others, which could result additional professional development. A major transition to a technology-based classroom could result in a delay in student adaptation to the new project-based curriculum for science. Unforeseen technology problems may delay teaching and student inquiry lessons in the classroom and in the field.

19. Summative Evaluation - Plans to analyze the results of the project

* Date Range: May 2014 - June 2014

* List of scope of work (activities and/or events, including quantitative and qualitative benchmarks and other project milestones).

Digital pre and post survey for inquiry-based teaching methods for teacher knowledge and implementation of these practices, with a 20% increase in teacher understanding. 10% Increase in ACT science assessment scores for grades 6th, 7th, 8th, 9th and 10th grade. End of year digital survey and assessment of inquiry-based objectives for all collaborative partners and teachers with at least 50% approval for members involved. Reduction on paper purchases and expenditures of at least 20% for the year. Total energy savings of 10% from previous year's usage. Total teacher inclusion of technology in lessons to at least 30% and curriculum by administrator evaluation of teacher plans and learn pad data retrieval systems, student surveys and observations.

* Anticipated barriers to successful completion of the summative evaluation phase.

Anticipated barriers to successful completion of the summative evaluation phase: Incomplete or no submittal of surveys by teachers. Transient student population may lead to incomplete student data. Low solar generated electricity production due to high rate of inclement weather days. Mechanical or infrastructure delays. Incomplete or no survey’s returned from participating members. Staff resistance to utilize technology in lessons.

20. Describe the expected changes to the instructional and/or organizational practices in your institution.

The response should illustrate the critical instructional and/or organizational changes that will result from implementation of the grant and the impact of these changes. These changes can include permanent changes to current district processes, new processes that will be incorporated or the removal of redundant or duplicative processes. The response may also outline the expected change in behaviors of individuals (changes to classroom practice, collaboration across district boundaries, changes to a typical work day for specific staff members, etc.). The expected changes should be realistic and significant in moving the institution forward.

Please enter your response below:

This project will change several instructional and organizational practices. First, WEA will have cost-savings and model more eco-friendly practices by lessening our dependence on non-renewable produced energy and paper consumption. Second, the additional benefit garnered from the affiliations with partners from the Toledo Zoo, University of Toledo and University Church will enhance all students learning across all classroom disciplines and result in increased student engagement and achievement. Third, WEA will not only incorporate the technology in the classroom but will also use it to be a beacon of what environmental education can be. The technology that will be incorporate across the curriculum and campus will allow teachers and students to engage in true real-time response and interactive education. Fourth, this will provide our students access to 21st century technological learning and ideas and applications that they will be able to use in the future. Our teachers will also have an opportunity to learn and apply new skills in technology and teaching, which can be applicable across all disciplines. WEA will initiate this environmental education component with advanced technology to begin a process of going paperless, with a
focus on incorporating environmental education in all classes from K-12 with hands-on inquiry-based experiences to enhance science education.

E) SUBSTANTIAL IMPACT AND LASTING VALUE - Impact, evaluation and replication

The responses in this section are focused on the ability to design a method for evaluating the project's capacity for long-term sustainable results. Therefore, the questions focus on the method of defining the problem(s) the project hopes to solve and the measures that will determine if the problem(s) have been solved.

21. Describe the rationale, research or past success that supports the innovative project and its impact on student achievement, spending reduction in the five-year fiscal forecast or utilization of a greater share of resources in the classroom.

The response should provide a concise explanation of items which provide rationale that will support the probability of successfully achieving the goals of the project. Answers may differ based on the various levels of development that are possible. If the proposal is for a new, never before implemented project, the response should provide logical, coherent explanations of the anticipated results based on some past experience or rationale. For projects that have been implemented on a smaller scale or successfully in other organizations, the response should provide the quantifiable results of the other projects. If available, relevant research in support of this particular proposal should also be included.

Please enter your response below.

WEA is undertaking an innovative project that will increase student achievement, reduce spending in the five-year fiscal forecast, and utilize a greater share of resources in the classroom. The basis for this project can be found in the following research: In a study by Tsai, Heller, and Underwood, (2014) iPad use by students in the classroom increased their ability to understand challenging concepts, such as space and time, through the utilization of interactive apps. Yudt and Columba (2011) present that data indicates that elementary students benefit significantly from interactive whiteboards by engaging them in the learning process with environmental stimuli. In a study by Hoody and Lieberman (1998), student achievement increases by using the environment as an integrating context. The result of their nationwide study suggests that teaching all content areas integrated with environmental education raised standardized measures of achievement. Michelle Kinman case study in, "Making the Grade with Clean Energy" A school with 313 kW solar PV system can save roughly $40,000 to $125,000 per year. "This is energy that school districts do not have to buy from a utility, saving money that the schools can use to pay for more teachers, staff, books and facilities". The incorporation of solar panels are in the neophyte stages in Ohio, and starting early will only allow more time for increased benefits and savings. The beginning of going green and using clean energy can begin the transition that will transform our economy, generate jobs, and protect our environment for decades to come. Reducing our dependence and cost will be beneficial to our school both fiscally and educationally.

22. Describe the overall plan to evaluate the impact of the concept, strategy or approaches used in the project.

This plan should include the methodology for measuring all of the project outcomes. Applicants should make sure to outline quantitative approaches to assess progress and measure the overall impact of the project proposal. The response should provide a clear outline of the methods, process, timelines and data requirements for the final analysis of the project's progress, success or failure. The applicant should provide information on how the lessons learned from the project can and will be shared with other education providers in Ohio.

* Include the name and contact information of the person who will be responsible for conducting the evaluation and whether this will be an internal or external evaluation.

Project Manager, Laura Schetter will be responsible for conducting the project evaluation, this will be conducted internally. She can be reached at 419-868-9885, or email Laura.Schetter@leonagroup.com. Monitoring progress will be enforced in three ways. First level of monitoring will be done with bi-weekly grade level team meetings, which will include an agenda item to discuss Straight A grant successes and challenges. Any challenges or innovations that may arise can be rectified at these meetings and at professional development sessions. Secondly every quarter a review of student progress will be monitored using internally created assessments based on internal land lab lesson experiences. Adjustments to the program will be applied based on findings as suggested by collaboration experts. The last monitoring approach will be an addition of a check box included on teacher lesson plan templates, indicating each time they are utilizing technology or inquiry based components. Administration will set the expectation of teacher participation of ideals in lesson plans of at least 30% by the start of the third quarter. Counseling and professional development will be made available for those in need of further assistance. In addition, they will administer baseline and final surveys and assessments to evaluate if the project goals are being achieved. Student achievement will be measured through pre- and post-assessment using internal Plan, Explore and Engage ACT science testing. This will be accomplished through systematic data retrieval from student test scores. Pre- and post-digital surveys to staff and students to measure impact of environmental education as well technology component paired with inquiry based learning objectives. Surveys will measure collaborative success from all partners, as well as the staff's success with the program. Students will be given surveys as well as success in displaying learning from inquiry and technology application scoring guides.

* Include the method by which progress toward short- and long-term objectives will be measured. (This section should include the types of data to be collected, the formative outputs and outcomes and the systems in place to track the project’s progress).

The project manager and SSIC will evaluate the project by ensuring project steps are completed on time and within budget. Cost savings assessment will be conducted through an energy bill, expenditures on paper products purchases as a comparison for the current year and the following year. Short term objectives will be monitored by the school’s Educational Academic Action Team as they meet weekly to discuss student achievement and recommend interventions. This team will be able to determine whether or not there is a change in student achievement due to the project. As teachers meet bi-weekly in grade level meetings the agenda will include the project as a discussion and feedback topic. Any challenges or innovations that may arise can be rectified at these meetings and at professional development sessions. Classroom and quarterly assessments will also serve as a means of measuring short term objectives. Longer term objectives will be measured using results from ACT, PLAN and ENGAGE testing. State assessments will also be used for measuring long-term objectives. The last monitoring approach will be an addition of a check box included on teacher lesson plan templates, indicating each time they are utilizing technology or inquiry based components. Administration will set the expectation of teacher participation of ideals in lesson plans of at least 30% by the start of the third quarter. Guidance, support and professional development will be made available for those in need of further assistance.
23. Describe the substantial value and lasting impact which the project hopes to achieve.

The response should provide specific quantifiable measures of the grant outcomes and how the project will lead to successful attainment of the project goals. Applicants should describe how the program or project will continue after the grant period has expired.

Please enter your response below.

Wildwood Environmental Academy will work to achieve three goals: (1) increase student science achievement by 10% each academic year (2) increase inquiry-based lessons to 20% of the overall curriculum in the first year of implementation, reaching at least 50% by the end of five years (3) decrease annual costs by at least $20,000 through reduced energy usage and paper consumption. These will be accomplished by: (1) developing an inquiry-based education program featuring a land laboratory, (2) converting the school to its own solar- and wind-generated energy sources, and (3) creating technology-integrated classrooms-including tablets, laptops, and interactive whiteboards. Continuing programs with the University of Toledo, University Community Church, and the Toledo Zoo will indoctrinate teachers in the methods of inquiry based curricula. The Toledo Zoo and the University of Toledo will conduct quarterly consultations with staff members to ensure lessons learned from the first year’s professional developments are ongoing. UCC will meet with students and staff the first hour of every field trip during years two through five to guarantee methods are being incorporated appropriately. The School Science Improvement Committee will be responsible for fostering an environment of continued environmental education amongst new staff members and for maintaining partnerships with project collaborators.

24. Describe the specific benchmarks, by goal as answered in question 9, which the project aims to achieve in five years. Include any other anticipated outcomes of the project that you hope to achieve that may not be easily benchmarked.

The applicant should provide details on the quantifiable measures of short- and long-term objectives that will be tracked and the source of benchmark comparative data points. Responses should include specified measurement periods and preliminary success points that will be used to validate successful implementation of the project. If a similar project has been successfully implemented in other districts or schools, identification of these comparable benchmarks should be included.

* Student Achievement

A major goal of this project is to improve student science achievement scores. Every year, students in grades 6-12 at WEA are assessed internally by the Plan, Explore, and Engage ACT Science test. Using science scores from the beginning of the year as the baseline, WEA targets a 10% increase of students scoring proficient each academic year. This will lead to a 50% increase in five years.

* Spending Reduction in the five-year fiscal forecast

WEA expects to reduce annual costs by at least $20,000 annually. Over a five year period this will equate to $105,000 in savings. The largest savings will come from installation of solar panels that will yield a $15,000 saving yearly. This information is based on WEA's yearly kilowatt hour consumption from Toledo Edison, and a Rudolph Libbe solar professional. Additional savings of $450 is expected from the installation of programmable thermostats in the classrooms. As stated by RWL Analytics, “using an Energy Star-certified programmable thermostat produced an average savings of about “6.2% of total household annual natural gas consumption”. Included in this savings estimate is reduction in cost of $4,000-$5,000 in paper related items such as books/papers and copier related items. Additionally the upgrade to the wireless system and server will also produce a cost saving of $1440 with eliminating the need for a cable modem. Total savings over a five year period will equate to over $27,200 for both.

* Utilization of a greater share of resources in the classroom

First, the school will have better physical resources in the creation of a land laboratory and better technology in the classroom. The University Church Community Gardens (UCC) will create a land laboratory on their property for students in grades K-12 to learn environmental education practices through inquiry-based lessons. This land laboratory will be the site of field trips where students will participate in research projects. Classrooms will be equipped with iPads, Learn Pads, Interactive Projectors. Mac Book Pros and a new Internet server will be installed. With this technology, the school will be able to make use of electronic books, articles and worksheets. Also, teachers and students will then have access to technology in collecting and analyzing the data from the inquiry-based projects. Second, the Toledo Zoo’s inquiry-based learning curriculum, aligned to Common Core and Ohio’s Model science curriculum will be adopted for use in WEA lessons. This curriculum will be used for the land laboratory fields and special demonstration projects in each classroom. Third, the University of Toledo's Chemical and Environmental Engineering Department will develop a professional development series tailored to WEA's mission statement. This series will align with field trips to the university and science days at our school.

* Implementation of a shared services delivery model

* Other Anticipated Outcomes

25. Is this project able to be replicated in other districts in Ohio?

- Yes
- No
If the applicant selects “Yes” to the first part of the question, the response should provide an explanation of the time and effort it would take to implement the project in another district, as well as any plans to share lessons learned with other districts. To every extent possible, applicants should outline how this project can become part of a model so that other districts across the state can take advantage of the learnings from the proposed innovative project. If there is a plan to increase the scale and scope of the project within the district or consortium, it should be included here.

* Explain your response

Yes, this plan can be implemented on different levels in communities throughout Ohio. Land-lab inquiry based science models can be replicated in other districts by partnering with local urban farmers and adopting the techniques of sustainable agriculture with inquiry based curriculum. To reduce spending on energy consumption, schools can partner with local engineering firms specializing in alternate energy to help provide for energy needs, thus increasing savings. Through these practices student achievement can be increased with inquiry based lessons, utilizing environmental education as its focus and implementing technology in and out of the classroom.

By virtue of applying for the Straight A Fund, all applicants agree to participate in the overall evaluation of the Straight A Fund for the duration of the evaluation time frame. The Governing Board of the Straight A Fund reserves the right to conduct an evaluation of the project and request additional information in the form of data, surveys, interviews, focus groups and other related data on behalf of the General Assembly, Governor and other interested parties for an overall evaluation of the Straight A Fund.

PROGRAM ASSURANCES: I agree, on behalf of this applicant, and any or all identified consortium members or partners, that all supporting documents contain information approved by a relevant executive board or its equivalent and to abide by all assurances outlined in the Straight A Assurances (available in the document library section of the CCIP).

Elizabeth Lewin, School Leader Wildwood Environmental Academy Maumee, OH (419) 868-9885
No consortium contacts added yet. Please add a new consortium contact using the form below.
### Partnerships

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<thead>
<tr>
<th>First Name</th>
<th>Last Name</th>
<th>Telephone Number</th>
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<th>Organization Name</th>
<th>IRN</th>
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<tbody>
<tr>
<td>Jason</td>
<td>Slattery</td>
<td>(419) 725-3104</td>
<td><a href="mailto:jslattery@rlcos.com">jslattery@rlcos.com</a></td>
<td>Rudolph and Libbe, Inc.</td>
<td></td>
<td>6494 Latcha Road, , Walbridge, OH, 43465</td>
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<tr>
<td>Mitch</td>
<td>Magdich</td>
<td>(419) 385-5721</td>
<td><a href="mailto:Mitchell.magdich@toledozoo.org">Mitchell.magdich@toledozoo.org</a></td>
<td>The Toledo Zoo</td>
<td></td>
<td>2 Hippo Way, , Toledo, OH, 43609</td>
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<tr>
<td>Brian</td>
<td>Ellis</td>
<td>(419) 534-3080</td>
<td><a href="mailto:bellisfarmer@gmail.com">bellisfarmer@gmail.com</a></td>
<td>The University Church</td>
<td></td>
<td>4747 Hill Road, , Toledo, OH, 43615</td>
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<tr>
<td>Isabel</td>
<td>Escobar</td>
<td>(419) 530-8267</td>
<td><a href="mailto:Isabel.escobar@utoledo.edu">Isabel.escobar@utoledo.edu</a></td>
<td>The University of Toledo</td>
<td></td>
<td>2801 W. Bancroft Street, , Toledo, OH, 43606</td>
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<td>First Name</td>
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<tr>
<td>Laura</td>
<td>Schetter</td>
<td>3rd Grade Teacher - WEA</td>
<td>Manage all financial grant funds Enforce implementation of all grant stages Maintain relationships with grant partners Facilitate evaluation of grant effectiveness Document all grant actions Manage Straight A Grant provided professional development sessions Plan 80 field trips for grades K-12 Be a resource for staff on environmental education and inquiry-based learning Research opportunities for future development of school's environmental mission</td>
<td>B.S. Early Childhood Education, Ohio University M.A.T. (Master's in the Art of Teaching), Miami University Graduate of Miami University's Global Field Program - A Master's program with focus of inquiry-based learning, environmental education, and stewardship Instructor for Miami University's Project Dragonfly Earth Expeditions (international field based courses in inquiry-based learning) Web-based courses (in environmental education) Board member of EECEO (Environmental Education Council of Ohio)</td>
<td>AmeriCorps volunteer (2 years) - managed volunteers, created community partnerships, built project sustainability, evaluated programs Substitute teacher and classroom teacher, grades K-12 (10 years) Environmental Educator, grades K-5 (2 years) - planned and taught ecology lessons Earth Expeditions Instructor (3 years) - facilitate inquiry based learning outdoors</td>
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<tr>
<td>Nicole</td>
<td>Dunwald</td>
<td>Teacher - WEA</td>
<td>Team member in project planning and design of innovative Straight A ideas Main contact for solar panel installation Educator on alternate energy for staff and students</td>
<td>B.Ed Middle Childhood (grades 4-9), University of Toledo Teaching Licensure in Science, Social Studies, and Reading</td>
<td>Taught Science, Social Studies, and Reading (8 years) Trained in inquiry-based learning and research at UTMC (University of Toledo Medical Center)</td>
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<tr>
<td>Robert</td>
<td>Woodley</td>
<td>Teacher - WEA</td>
<td>Team member in project planning and design of innovative Straight A ideas Main contact for technology upgrade and professional development Educator on integrating technology as a classroom resource for staff and students</td>
<td>Bachelor of Business Administration (Spring Arbor University) Master of Education (University of Toledo) Microsoft Certified Solutions Associate (MCSA certification) Teaching Licensure in Science and Social Studies (grades 4-9)</td>
<td>Key Bank Financial Services Division (10 years)</td>
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<tr>
<td>Isador</td>
<td>Escobar</td>
<td>Professor - University of Toledo</td>
<td>Develop and implement quarterly professional development sessions on integrating environmental issues into the classroom Plan and implement 5 science days on site Facilitate 5 field trips to University of Toledo's research labs Be a resource to WEA staff on grant writing and implementation and on environmental issues and education</td>
<td>Professor of Chemical &amp; Environmental Engineering Interim Assistant Dean for Research Development and Outreach, College of Engineering Editor-In-Chief, IDA Journal of Desalination &amp; Water Reuse, International Desalination Association Associate Editor, Environmental Progress &amp; Sustainable Energy</td>
<td>Wrote and implemented previous grants through Ohio Department of Education Coordinator of the Women in STEMM Day Of Meetings (WISDOM) that brings over 150 high school sophomores to The University of Toledo Participates in Engineering for Teachers of Migrant Students</td>
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<tr>
<td>Jerry</td>
<td>Orwig</td>
<td>Public Programs Coordinator</td>
<td>Be a resource for citizen science &amp; inquiry-based techniques Aid in education of pollinator/community/rain/native gardens</td>
<td>Graduate of Miami University's Global Field Master's Program, inquiry-</td>
<td>Regularly provide teacher workshops Partner in 5-year iEvolve</td>
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<td>Name</td>
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<tr>
<td>Mitch</td>
<td>Curator of Education</td>
<td>Provide professional development for teachers on inquiry based science teaching methods Be involved in student site visits</td>
<td>Graduate of Miami University's Global Field Master's Program, inquiry-based program. Toledo Zoo website says they have experience &quot;create learning experiences that meet academic standards at both the state and national levels...and...develop learning materials and activities that are inquiry-based, fun, and challenging.&quot;</td>
<td>Regularly provide teacher workshops. Partner in 5-year iEvolve grant.</td>
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<tr>
<td>Bryan</td>
<td>Manager - University Church Community Gardens</td>
<td>Co-teach 60 field trips at our land lab located at University Church Maintain school's land lab during school's off-season Install 2 wind turbines at school</td>
<td>Worked at Toledo GROWs Experience community gardening, hydroponics, aquaponics, permaculture, animal husbandry, and urban agriculture</td>
<td>Partner in other schools' grant programs Community partner with several companies and organizations in community gardening and sustainable agriculture programs</td>
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<tr>
<td>Scott</td>
<td>Manager - University Church Community Gardens</td>
<td>Co-teach 60 field trips at our land lab located at University Church Maintain school's land lab during school's off-season Install 2 wind turbines at school</td>
<td>Worked at Toledo GROWs Experience community gardening, hydroponics, aquaponics, permaculture, animal husbandry, and urban agriculture</td>
<td>Partner in other schools' grant programs Community partner with several companies and organizations in community gardening and sustainable agriculture programs</td>
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<tr>
<td>Jason</td>
<td>Director of Solar</td>
<td>Collaborate with WEA and First Solar to make the best use of available space to offset its power costs through solar panels Provide operation and maintenance (O&amp;M) of solar panels at no extra cost Provide engineering, procurement, and construction (EPC)</td>
<td>Active in US solar energy business since 2007 Leading independent solar project developer</td>
<td>Completed solar energy projects at 7 local Northwest Ohio educational facilities</td>
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