

TERRA MINI-GRANT APPLICATION 2015-2016 SCHOOL YEAR

A. SCHOOL AND APPLICANT INFORMATION

Submission Date:	9/30/15	School Year: 15-16
School Name:	Bond Elementary	
Type of School:	<input checked="" type="checkbox"/> Public	<input type="checkbox"/> Private <input type="checkbox"/> Charter
Student Enrollment:	651	Number of Teachers: 45
Range of Grade Levels at School:	PreK-5	% Eligible for Free/Reduced Lunch: 100%
School Mailing Address:	2204 Saxon Street, Tallahassee Florida 32310	
County:	Leon	
Principal Name:	Brandy Tyler-McIntosh	
Principal's Email Address:	TylerB@LeonSchools.net	
Applicant Name:	Robin Oliveri	
Applicant's Phone #(s):	850-488-7676	850-487-7868
Applicant's Email Address:	OliveriR@LeonSchools.net	
Applicant's Affiliation to School/Organization	District Science Curriculum Coordinator	
If Applicant is a Teacher, please list:	Teacher's Grade Level(s):	Teacher's Subject(s) Area:
If Parent/Community Volunteer or Other non-school staff, please list School Contact as a Co-Applicant:	Co-Applicant Name:	Co-Applicant Affiliation to School/Organization:
If Co-Applicant is a Teacher, please list:	Teacher's Grade Level(s):	Teacher's Subject Area(s):

B. PROGRAM INFORMATION

Please list the focus area(s) for this TERRA Mini-Grant request.	Technology	Science (Weather)	Environmental Sustainability
---	------------	-------------------	------------------------------

C. PROJECT INFORMATION

Project Title: WeatherSTEM Garden Sensors	
Project Start Date: 1/1/15	Project End Date: 8/31/16
# of Students Participating: At least 100	Grade Levels of Students Participating: PreK-5
Mini-Grant Abstract (300 word max): Briefly describe what your proposed project is about. Abstracts of winning proposal will be viewable at www.terraonline.org WeatherSTEM!	
<p>WeatherSTEM is a weather station at your school providing comprehensive weather data, cloud cameras, agricultural probes and sensors and interactive weather education portals. Funds provided will place a WeatherSTEM system at Bond Elementary School in Leon County. The technology will be utilized by over 100 students within the 21st Century Community Learning Center Afterschool program. Garden probes and weather sensors will be programmed by students and data will complement their garden education program. Soil composition, moisture readings, solar exposure and other data will be used, tracked and compared with plant growth. As the garden is robust and utilized in every grade at Bond Elementary, there is potential to impact every student Pre-K through 5th grade students. District science developers will work with teachers throughout the year to align data obtained from WeatherSTEM into their current curriculum and classroom activities.</p>	

TERRA MINI-GRANT APPLICATION 2015-2016 SCHOOL YEAR

Mini-Grant Project Proposal (1500 word max)

Please explain how your proposed project/activity will enhance learning for your students. Include the following:

- 1) How is your project innovative? (25 points)
- 2) How will it fit into your curriculum (include standards)? (10 points)
- 3) How will it encourage long-lasting change in your classroom, school or community? (20 points)
- 4) How will technology be utilized? (20 points)
- 5) What evidence will you collect to show student gain? (10 points)
- 6) How will participants share your project results with the community? (15 points)

WeatherSTEM is a weather station at your school providing comprehensive weather data, cloud cameras, agricultural probes and sensors and interactive weather education portals. Every school weatherSTEM station comes complete with a social media page and personalized station identifier and is shared with the larger weather tracking community. An interactive online map records and displays real-time weather data for all locations in the geographical US that also contain a WeatherSTEM unit. The WeatherSTEM platform also comes complete with astronomical charts and location data for planets and other solar bodies. A “zap map” records real-time lightning strikes and can be used to monitor safety conditions for outside classroom or extracurricular activities. Online lessons developed by curriculum specialists and meteorologists are available to highlight the multiples sensors and tailored to deliver high engagement and interaction.

The Edyn sensor is a smart garden system that monitors environmental conditions helping plants thrive. Edyn keeps students connected to the garden through continuous monitoring of light, humidity, temperature, soil moisture and soil nutrition. Real-time guidance provides tailored tips and notifications based on the specific garden conditions and the weather forecast. Edyn analyzes each garden to discover which plants best match its conditions and climate through its database of over 5,000 varieties. Edyn is solar powered and Wi-Fi connected so students can monitor the garden from anywhere.

The technology will be utilized at Bond Elementary School, initially within the 21st Century Community Learning Center Afterschool Program, aligning their garden education with additional data. Soil composition, moisture readings, solar exposure and other data will be used, tracked and compared with plant growth. Students will learn to program the agriculture sensors and weather station sensors to provide immediate real-time alerts through phone and email. This information will be used to increase the production capacity of the garden through improved plant cultivar selection in an effort to provide students with nutritional organic produce to take home on the weekend or to provide their classrooms with healthy snacks. This program will impart invaluable experience for students to learn self-sufficiency within their community using scientific data as their guide. The garden is utilized in every grade at Bond Elementary and the program will be expanded to include all grade level classes in support of literacy, math and science principles. Student media production will also use the weather station data to develop a daily weather report and activity advisory through the school’s broadcasting network, providing students with STEM career exposure and experience.

Community partnerships will be pursued with the local Florida Agriculture and Mechanical University as well as the county agriculture extension office to provide leadership and management guidance for students as well as exposure to additional academic and career possibilities.

The district science developers will work with teachers throughout the year to align data obtained from WeatherSTEM into their current curriculum and classroom activities. Using the weather station data students will have current, real-time information to apply to content instruction in weather, climate, geography, solar systems, ecology and biology. Principles of chemistry, physics, biology and astronomy are demonstrated through engaging technology resources from the WeatherSTEM program. Critical STEM skills including data mining, data analysis, research application and experimentation is made accessible to all levels of learners using modern technology instruments and applications delivered through highly engaging media.

In Florida, fifth grade is the initial state assessment in science. Prior year performance data is pending from the state. Student gain will be assessed through improved classroom grades, surveys through the 21st CCLC program to parents, students and teachers, and the percentage passing rate for Bond Elementary on the state science assessment when the scores are provided.

Bond Elementary will share the results through their WeatherSTEM facebook page, website, parent newsletters and other methods as requested.

D. BUDGET: Describe all costs associated with your project activity. (Attach additional pages if necessary)

Service/Item Description	Cost
Installation of WeatherSTEM unit	\$2700.00
Edyn Garden Sensors	\$300.00
Total Cost of Project	\$3000.00

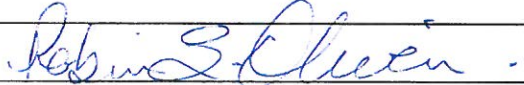
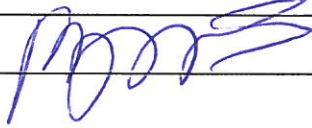
TERRA MINI-GRANT APPLICATION 2015-2016 SCHOOL YEAR

Amount requested from TERRA:	\$3000.00
If matching/additional funds have been identified to help pay for your project, please list →	Source: District general revenue, staff time and effort
	Amount: \$3,500
If any goods or services have been donated for this project, please list →	Source:
	Goods/Services:

E. COMMITMENT

By submitting this application and signing below, you agree to the following:

- TERRA is not liable for any injuries or losses that may occur as a result of participation in the proposed project.
- The applicant is responsible for submitting an interim report and a final report using an electronic form provided by TERRA. Schools that do not submit an interim report and a final report will not be eligible for future funding opportunities.
- Equipment purchased using mini-grant funds will become the property of the school receiving funds.

Applicant's Name:	Robin Oliveri		
Applicant's Signature:		Date:	9/29/15
School Administrator/ Principal's Name:	Brandy Tyler-McIntosh		
School Administrator/ Principal's Signature		Date:	9/29/15