

TERRA MINI-GRANT APPLICATION

2014-2015 SCHOOL YEAR

The Technology Education Resource & Redesign Alliance (TERRA) is a non-profit organization whose mission is to mobilize the resources, knowledge, and capacity of individuals, foundations, business and industry in shaping and facilitating educational policy, practice, and research for increased achievement in a global environment.

What this funds: TERRA's Mini-Grants are intended to support school-based projects in pre-K through 12 that are consistent with TERRA's mission, and have a positive impact on education by using technology. These grants should fund initiatives that utilize technology in a new and innovative way or sustainability initiatives seeking to encourage and support creative, local environmental education and stewardship activities.

Who can Apply: Florida public, charter, and private schools and educators are eligible to apply.

Amount awarded: A total of \$30,000 will be made available for a limited number of awards ranging from \$500 to \$3,000. Grant applications may be submitted for the 2014/2015 school year from September 1st through midnight October 3rd, 2014. The TERRA Grant Committee will review proposals and make funding recommendations to the TERRA Board of Directors.

What we are looking for: TERRA seeks applications for projects in which students participate in learning experiences that utilize technology in an innovative way or promotes environmental sustainability. **Funding is intended to encourage and support creative activities that build on the unique assets and strengths of individual education communities.** As part of this project, individuals receiving awards will be required to share what they learn with the broader community through outreach such as public events, presentations and displays and/or media engagement. Preference will be given to projects with matching funds or in-kind services.

Details:

- **The deadline for the 2014-15 school year is October 3, 2014. Applications received after this date will not be considered.**
- Financial assistance is limited to \$3,000 per school, per year.
- Grantees will be required to provide ongoing feedback of grant activities, documentation of their project, including a financial report of how money was spent, at least 5 high-resolution digital photos (including publicity releases), and a short reporting form.
- The Teacher/Applicant listed is whom we will contact regarding your application.
- Inquiries should be submitted via email to: grants@terraonline.org.

Application Instructions:

To apply, please submit this completed form by October 3, 2014.

Fill out the form completely

Gather appropriate signatures. Applications without signatures will not be considered.

Submit signed proposal via e-mail to grants@terraonline.org with your school name contained in the filename.

We will confirm receipt of your application within 2 weeks via email. If you have not heard from us, please contact us at grants@terraonline.org. Awards will be sent within one month of application submission.

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A. SCHOOL AND APPLICANT INFORMATION

Submission Date:		School Year: 2014-2015
School Name:	Blountstown High Schools	
Applicant Name:	Bart Nichols	
Principal Name:	Dr. Debra Williams	
County:	Calhoun County	
Type of School:	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private <input type="checkbox"/> Charter	
Student Enrollment:	400	Number of Teachers: 32
Range of Grade Levels at School:	9-12	% Eligible for Free/Reduced Lunch: 59%
Applicant's Phone #(s):	Schools Main # 850-674-5724	Direct # (ext. or cell)
Applicant's Email Address:	bart.nichols@calhounflschools.org	
Applicant's Affiliation to School/Organization	Teacher	
If Applicant is a Teacher, please list:	Teacher's Grade Level(s): 9-12	Teacher's Subject(s) Area: Biology
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.	Environmental	Renewable Energy	Technology	

C. PROJECT INFORMATION

Project Title: Monitoring Water Quality and Fauna Along the Apalachicola River	
Project Start Date: 11/15/2014	Project End Date: 30/04/2015
# of Students Participating:	Grade Levels of Students Participating: 9-12
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	

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The Apalachicola River is important for the Florida economy because of its pivotal role to the Oyster Industry. Oysters are one of the most important commercial shellfish in Florida. The Apalachicola River watershed is rich in biodiversity. Human activities continue to affect the water quality through pollution and also affecting the watershed fauna. On the other hand, the sustained oyster production in the Apalachicola region is strongly dependant on humans activities along the river. During the 2013 – 2014 academic year, students from Blountstown High School took water samples to determine pollution levels and also identified fauna along the river. In the 2014 -2015 academic year, the students propose to monitor changes in pollution levels along the river and monitor fauna along the watershed. This project enables to teach students real life examples and at the same time present opportunities for students and the community to practice environmental stewardship.

This project will be conducted in conjunction with the Better Universe and Citizens Technologies (BUC) internet based computer modules, which is a comprehensive modules designed for STEM education on environmental stewardship and sustainability at the K-12 level. The interactive modules are successfully used in several school districts to improve the learning of STEM. Our results will be disseminated into the community through several means including newsletters, websites, workshops and media.

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)*

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How is your project innovative?

At its peak production, the Apalachicola bay produced 90% of all oysters in Florida and 10% of the nation oysters. The Apalachicola River supports this oyster industry. To date the oyster industry in the Apalachicola is in decline, a direct result of human mismanagement of natural resources. Possible reasons include reduced water flows along the river and pollution in the water. Blountstown High School students measured levels of pollution in the 2013 -2014 academic year and also recorded the fauna in the watershed. This year a different group of students will take the same measurements to determine pollution levels and fauna diversity and densities. The measurements will be compared with last year data to determine change over time. Our project will seek to educate students on the importance of Apalachicola River to the Florida economy, and subsequently the importance for environmental conservation initiatives along the river. The topic of oyster production is real life and widely discussed in our region, making it a very relevant topic to teach sustainability and get communities together. Monitoring data collected over time will also teach students the importance of multi-year data.



The Apalachicola River

BUC Technologies (BUC) is a STEM education company dedicated towards teaching sustainability at K-12. Their modules teach a range of topics on renewable energy and conservation within educational standards. The modules also teach on current topics such as climate change and how it affects our region. The modules will be used for our STEM instruction and preparation for the field experiments. The modules were effective in STEM education and preparing our students for the field research in the 2013-2014 academic year, as they enabled the students to do the virtual experiments ahead of the actual field research. The water sampling will mostly include nitrates, nitrites, phosphates and some heavy metals.

How will it fit into your curriculum (include standards)?

The BUC STEM modules teaches renewable energy and environmental stewardship within Common Core and Florida Standards. The water sampling project along the river and monitoring of biodiversity will all be done within both Common Core and Florida Next Generation Standards. On regular basis, Blountstown High School conducts science fairs in which students design their own experiments. Being a rural school, most students design outdoor experiments and this project allows our students to learn to design outdoor experiments.

How will it encourage long-lasting change in your classroom, school or community?

Last year's observations with students who used the interactive modules proved long know pedagogy knowledge, that the use of interactive modules is more effective in teaching STEM compared to traditional text book. This is even more important for today's generation which more savvy with computer and hand held devices. Interactive modules are equally more effective in teaching topics such as environmental conservation and renewable energy. Our approach addresses two

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of TERRA requirements, teaching environmental stewardship and use of technology. This grant opportunity enables our school to integrate technology in our curriculum. Last year we carried an article in our local paper on students conducting measurements along the Apalachicola River. The story drew a lot of attention from the community and clearly has a long lasting effects in the community and our region.

How will technology be utilized?

Our project will teach STEM using the BUC computer based interactive modules. The modules will be used to prepare and learn for the field trips to take water samples and monitor fauna along the watershed. The modules bring a depth through virtual experimentation that can be difficult to achieve otherwise. The BUC websites will be used to input student's projects for the Apalachicola River. Likewise, pre and post tests will be conducted using the BUC interactive quiz questions.

What evidence will you collect to show student gain?

Most students are equally concerned about environmental issues and are responsive to instruction on the environment. Pre and post tests will be used to show gains. Questions will be created and presented as pre-tests to determine students knowledge on environmental resources in Calhoun County and related STEM concepts. Students will then be presented the same tests after the activities. As a qualitative measure, last year we observed significant appreciation towards environmental conservation after learning about water resources and reviewing laboratory tests results showing pollution levels in the river. Levels of appreciation will also be monitored after the field experiments along the water shed and the river.

How will participants share your project results with the community?

Several methods will be used to share our results. A multi-page article in the newspaper proved to be very effective last year and will be the main method used to disseminate our findings in the 2014 – 2015 academic year. The importance of the Apalachicola River to the oyster industry attracts local media. The initiative will be announced to all teachers and students at the school who will be invited to participate. We will also post the results on the Blountstown High School website. Our results will also be distributed through school newsletters as well as district newsletters. BUC, our collaborator disseminated our project as a success story to the many schools and teachers they serve in and conferences they attended and will do so again in the 2014 -2015 academic year. Their website is available at <http://buctechnologies.com/news.html>.

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

Service/Item Description	Cost
Acquiring licenses for the modules	\$2000
Training on use of modules and visits	\$500
Student transportation to the Apalachicola River & accessories	\$300
Analysis of water samples	\$250
Laboratory equipment, and sampling equipment	\$300
Total Cost of Project	\$3350
Amount requested from TERRA:	\$3000
If matching/additional funds have been identified to help pay for your project, please list	Source: 0
	Amount: \$0
If any goods or services have been donated for this project, please list Blountstown High School will provide as in-kind part of the transportation and laboratory equipment and sampling equipment	Source: Blountstown High school
	Goods/Services: 350

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.

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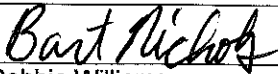
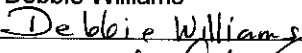
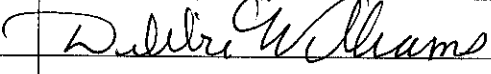
Blountstown High School will provide as in-kind part of the transportation and laboratory equipment and sampling equipment

Goods/Services: 350

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 required documentation via e-mail to TERRA including on going updates, financial report, high-resolution digital photos (and media releases) that are cleared for use in TERRA's outreach materials, and any mini-grant project-related lessons developed. A short reporting form will be sent to schools when awards are made.
- Schools that do not submit reporting documentation materials automatically waive this remaining 10% and may jeopardize future funding opportunities.
- Equipment purchased using mini-grant funds will become the property of the school receiving funds.

Applicant's Name:	Bart Nichols		
Applicant's Signature:		Date:	09/29/2014
School Administrator/ Principal's Name:	Debbie Williams 		
School Administrator/ Principal's Signature		Date:	09/29/2014
School Address (for mailing of award)			