

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:	October 3, 2014	School Year: 2014-2015
School Name:	Golfview Elementary Magnet School	
Applicant Name:	Stacey O'Connor	
Principal Name:	Terri Moeller	
County:	Brevard	
Type of School:	<input checked="" type="radio"/> Public <input type="radio"/> Private <input type="radio"/> Charter	
Student Enrollment:	661	Number of Teachers: 50
Range of Grade Levels at School:	PK-6	% Eligible for Free/Reduced Lunch: 81.2%
Applicant's Phone #(s):	Schools Main # 321-633-3570	Direct # (ext. or cell) 321-298-5426
Applicant's Email Address:	Oconnor.stacey@brevardschools.org	
Applicant's Affiliation to School/Organization	Instructional Coach	
If Applicant is a Teacher, please list:	Teacher's Grade Level(s): K-6	Teacher's Subject(s) Area: ELA
If Parent/Community Volunteer or Other non-school staff, please list School Contact as a Co-Applicant:	Co-Applicant Name: Mallory Williams	Co-Applicant Affiliation to School/Organization: Teacher
If Co-Applicant is a Teacher, please list:	Teacher's Grade Level(s): 6	Teacher's Subject Area(s): All

B. PROGRAM INFORMATION

Please list the focus area(s) for this TERRA Mini-Grant request.	S.T.E.A.M. (Science, Technology, Engineering, Arts, Math)	21st Century Skills and Technologies	Problem-Solving	Standards-Based Instruction
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C. PROJECT INFORMATION

Project Title:	MakerBot: Making the World a Better Place			
Project Start Date: November 3, 2014	Project End Date: June 1, 2014			
# of Students Participating: 72	Grade Levels of Students Participating: 6th			
Mini-Grant Abstract (300 word max):				
<p>Briefly describe what your proposed project is about. Abstracts of winning proposal will be viewable at www.terraonline.org</p> <p>In the near future, the 3D printer will revolutionize the way we live and will ultimately change our lives. Imagine being able to create an idea in your mind and transform it into a tangible object within minutes. Having the 3D printer will allow our sixth graders to do just that. In this proposal, students will be asked the essential question, "How will 3D printer technology make the world a better place?" Students will use critical thinking skills and innovation to create a proposal on how 3D printers can be used in daily life. Community members will be invited as guest speakers to share their knowledge of 3D printer technology. Science, Technology, Engineering, Art, and Math (S.T.E.A.M.) will be integrated throughout this project. Students will use technology to research about 3D printer technology and the possible impact that it will have on the future. Students will use the digital printer software to design a model for their project proposal depicting how 3D printers will improve life as we know it. They will also create a presentation on their Google Drive account to share at the end of the year in the "MakerBot Expo". In the "MakerBot Expo" students will showcase their project ideas as well as their 3D creations with fellow students and parents. Other community members will be invited including: Harris, Space Alliance and Craig Technologies so that they can give reflective feedback to our students on their 3D MakerBot project proposals. The purpose of this proposed project is to inspire and motivate students to "see the future" while teaching the Florida Standards and allowing students to develop 21st century skills using technology.</p>				

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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)

1) This project is innovative because 3D printers will allow students to use creativity and innovation to develop a new idea to enhance our lives. Students will be required to use S.T.E.A.M. principles as they think outside the box to develop a proposal with real-world application. Students will be researching and creating a 3D model of an object for their project proposal addressing the essential question, "How will 3D printer technology make the world a better place?"

2) All aspects of this rigorous project fits into the sixth grade curriculum with an emphasis on language and literacy. Initially, students will be researching high level informational text to develop background knowledge about 3D printer technology. Students will collaborate and share their research on Edmodo, an interactive social media site for education. Students will develop their own project proposal on how they think 3D printer technology can be used to enhance our lives. Students will enhance their math skills while using the 3D printer software to create their 3D models. Additional ELA writing standards will be utilized as students create a presentation on their Google Drive account for the "MakerBot Expo". Speaking and listening standards will be assessed when students share their presentations with fellow peers, family, and community members during our "MakerBot Expo". The standards that will be taught include:

LAFS.6.RI.2.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.

LAFS.6.RI.2.5 Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas.

LAFS.6.W.2.6 Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.

LAFS.6.W.3.7 Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.

LAFS.6.W.3.8 Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.

LAFS.6.W.3.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.

LAFS.6.SL.1.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.

LAFS.6.SL.2.4 Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.

MAFS.6.G.1.4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

MAFS.6.EE.3.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation $d = 65t$ to represent the relationship between distance and time.

SC.6.N.1.5 Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.

3) This project will encourage long-lasting change in the classroom and school by inspiring and motivating students to learn and master the Florida standards in a creative and innovative way. As a literacy coach, I would like to see more of the Florida Standards integrated with the content areas and taught in real-world context using Project Based Learning. This will be an

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opportunity for teachers to see the effectiveness of Project Based Learning. This Project Based Learning experience will inspire teachers to rethink their own teaching practices. Professional development will also support this initiative and will help infuse more Project Based Learning into classrooms. This learning experience will help create a paradigm shift in the instructional practices of teachers at our school and will engage and motivate students to achieve academic success. It will also have an influence our school community when students share their projects at the "MakerBot Expo" and it will develop community partnerships with local companies using this type of technology.

4)Technology will be used consistently throughout this project. Initially, students will take a digital survey to assess their knowledge of 3D technology. Students will be using Google Chromebooks to research complex informational text on 3D printer technology. Students will share their knowledge by posting websites, videos, and other information related to 3D printer technology on Edmodo. They will use a 3D software program in conjunction with the3D MakerBot Desktop Printer to develop a 3D model that will be used in their presentation at the "MakerBot Expo". They will utilize computers to research and collaborate throughout this learning experience. Students will use 21st century skills while enhancing their technological skills. Students will use their Google Drive accounts to create and collaborate on presentations for the "MakerBot Expo" They will share their presentations at the end of the year with students, families, and the community.

5)A digital pre and post qualitative assessment will be given to students using Google Forms to assess their technological skills as well as their knowledge of 3D printers and S.T.E.A.M. based projects. Student gain will be demonstrated quantitatively on mid and end of the ELA (English Language Arts) district assessments as well as the Florida Standards Assessment (FSA).

6)Participants will share the project results with the community in the end of the year "MakerBot Expo". Community members dealing with similar technologies will be invited to share their knowledge as guest speakers and how they use 3D printers in their careers. Community partnerships will be developed throughout this project and community members will be invited to our "MakerBot" Expo that will be hosted by our sixth grade students. The community partner connections made during the "MakerBot Expo" will continue to open doors for these students as well as endless possibilities and support for our school.

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

Service/Item Description	Cost
MakerBot Replicator Desktop 3D Printer	\$2,899.00
2 MakerBot PLA True-Blue Filament Refills	\$96.00
	\$0
Total Cost of Project	\$2,995
Amount requested from TERRA:	\$2,995
If matching/additional funds have been identified to help pay for your project, please list →	Source:
	Amount: \$
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 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 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.

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Applicant's Name:	Stacey O'Connor		
Applicant's Signature:		Date:	10-3-14
School Administrator/ Principal's Name:	Terri Moeller		
School Administrator/ Principal's Signature		Date:	10-3-14
School Address (for mailing of award)	1530 South Fiske Blvd. Rockledge, FL 32955		