

# TERRA MINI-GRANT APPLICATION 2015-2016 SCHOOL YEAR

## A. SCHOOL AND APPLICANT INFORMATION

<b>Submission Date:</b>	9/30/15	<b>School Year:</b>	2015/16
<b>School Name:</b>	Electa Lee Magnet Middle School		
<b>Type of School:</b>	<input type="checkbox"/> Public	<input type="checkbox"/> Private	<input type="checkbox"/> Charter
<b>Student Enrollment:</b>	950	<b>Number of Teachers:</b>	50
<b>Range of Grade Levels at School:</b>	6 <sup>th</sup> -8 <sup>th</sup>	<b>% Eligible for Free/Reduced Lunch:</b>	
<b>School Mailing Address:</b>	4000 53 <sup>rd</sup> Ave West Bradenton, FL 34210		
<b>County:</b>	Manatee		
<b>Principal Name:</b>	Scott Cooper		
<b>Principal's Email Address:</b>	Coopers@manateeschools.net		
<b>Applicant Name:</b>	Therese Conk		
<b>Applicant's Phone #(s):</b>	<b>Schools Main #</b>	<b>Direct # (ext. or cell)</b>	
<b>Applicant's Email Address:</b>	conkt@manateeschools.net		
<b>Applicant's Affiliation to School/Organization</b>	Employee		
<b>If Applicant is a Teacher, please list:</b>	<b>Teacher's Grade Level(s):</b> 7 <sup>th</sup>	<b>Teacher's Subject(s) Area:</b> Science	
<b>If Parent/Community Volunteer or Other non-school staff, please list School Contact as a Co-Applicant:</b>	<b>Co-Applicant Name:</b>	<b>Co-Applicant Affiliation to School/Organization:</b>	
<b>If Co-Applicant is a Teacher, please list:</b>	<b>Teacher's Grade Level(s):</b>	<b>Teacher's Subject Area(s):</b>	

## B. PROGRAM INFORMATION

<b>Please list the focus area(s) for this TERRA Mini-Grant request.</b>	STEM	Maker Space	Scientific Methods & Processes	Art/Design Integration
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## C. PROJECT INFORMATION

<b>Project Title:</b>	
<b>Project Start Date:</b> 2/2016	<b>Project End Date:</b> 4/2016
<b># of Students Participating:</b> 130	<b>Grade Levels of Students Participating:</b> 7 <sup>th</sup> Grade
<b>Mini-Grant Abstract (300 word max):</b> Briefly describe what your proposed project is about. Abstracts of winning proposal will be viewable at <a href="http://www.terraonline.org">www.terraonline.org</a>	
<p>This grant will provide funds to create a Maker Space for my students where they will use ipads, Tinkercad, and a 3d printer to design and create self-imagined products. One of the newest directions in Science and technology education is the "Maker" or "Tinkering" movement. Based on the idea of "experimental play", Maker philosophy encourages students to tinker with a variety of resources to create something. This kind of discovery invites innovation and resourcefulness, which is a perfect recipe for creating life-long learners and problem solvers. Hopefully, my Maker-Space will inspire my students to get in touch with their creative side, to become critical thinkers, and pursue their individual dreams.</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)

Electa Lee Middle School is a designated Title 1 school with a diverse population of lower socioeconomic and under achieving students. As such, my students are a challenge to motivate, and generally prefer hands-on activities to more traditional methods of learning. This grant will provide funds to create a Maker Space for my students where they will use ipads, Tinkercad, and a 3d printer to design and create self-imagined products. One of the newest directions in Science and technology education is the "Maker" or "Tinkering" movement. Based on the idea of "experimental play", Maker philosophy encourages students to tinker with a variety of resources to create something. This kind of discovery invites innovation and resourcefulness, which is a perfect recipe for creating life-long learners and problem solvers. Hopefully, my Maker-Space will inspire my students to get in touch with their creative side, to become critical thinkers, and pursue their individual dreams.

The Maker Space is a perfect supplement to our study of The Nature of Science. As students work through the design and production process of the Maker Space they will be mimicking the process and thinking skills of real world scientists and engineers (benchmark; SC.7.N.1.1). It is important for students to participate in forms of scientific investigation other than experiments to understand that not all scientific knowledge is derived from experimentation (benchmark SC.7.N.1.3.). As students work to refine their designs benchmark SC.7.N.1.4 will be addressed.

As a teacher at a magnet school for the performing & visual arts I am always looking for ways to integrate art into my science lessons. I work collaboratively with the Digital Arts teacher. For this unit she will help to introduce and teach the design elements on Tinkercad. We will use her students as tutors for the unit. Students will then produce their products in the Maker Space on the 3D printer. This year we are planning a Maker Faire where students will present what they are creating to parents, other students, and community members. Students will also be able to present their creations at the annual Electa Lee Art Show. I would also like my students to create objects that might be donated to a local elementary school as part of a service project. Because I share a computer cart with four other teachers, my students have very limited access to technology. The computers that we do have are old and in ill repair. Having access to ipads on a daily basis will allow me to present difficult science concepts in multimedia and allow students to complete assignments via the computers. This will have a tremendous impact on the lessons I am able to present to future students and learning in my classroom. Finally, the Maker philosophy fosters the character building traits of creativity, curiosity, open-mindedness, persistence, social responsibility, and teamwork. It helps to build a community of learners that are more interested in building and sharing than competing. These are the long term goals I strive for in my classroom.

All of my 124 7th grade science students will participate in the Maker-Space activities. They will begin the design process using the ipads to research the Maker Movement and 3D printing technology. Once this is completed they will design their object on the ipads using Tinkercad. Students will also use the ipads and Edmodo to chart their progress as they work through the different stages of design and production. Through Edmodo my students will have a safe online social platform for collaboration. They will be able to interact with one another; share ideas, get help with problems, and provide (and get) support as they encounter problems. Finally students will create their object/product on the 3D printer.

Using Edmodo I will pre-asses my student's knowledge of design and production, and assess their mastery of required knowledge as the unit progresses. At the end of the unit students will submit one final product, a Maker Space Logbook and a multimedia presentation describing what they have learned and accomplished. This will serve as a post assessment. The logbook will provide ongoing evaluation of student's progress through out the process. A Maker Faire in the spring of 2016 will provide further opportunity to evaluate and showcase student work.

As part of this unit of study students will have multiple opportunities to share what they have learned with parents, other students and with the neighboring community. Students will present their projects to their individual classes at the completion of the unit. They will participate in the Maker Faire where they will share with both the school community and the neighborhood community. They also will be a part of the annual Art Show held by the school in the spring.

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

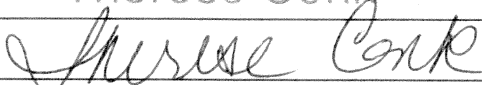
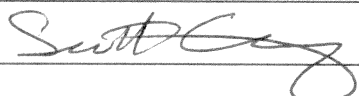
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Service/Item Description	Cost
MAKERBOT REPLICATOR MINI COMPACT 3D PRINTER	\$1375
Ipad mini's	\$1500
	\$
<b>Total Cost of Project</b>	<b>\$</b>
<b>Amount requested from TERRA:</b>	<b>\$2875</b>
If matching/additional funds have been identified to help 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 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.

<b>Applicant's Name:</b>	Therese Conk	
<b>Applicant's Signature:</b>		Date: 9/30/15
<b>School Administrator/ Principal's Name:</b>	Scott Cooper	
<b>School Administrator/ Principal's Signature</b>		Date: 9/30/15