

## General Information

Grant Number	824
Project Title	3D printers for STEM
Please select the <b>MAIN</b> curriculum area your grant addresses.	Science
Does your grant have a technology component? (Will you have technology equipment, software, etc. in your budget?)	<input checked="" type="radio"/> No <input type="radio"/> Yes
<b>Primary Contact Information</b>	
First Name	Graham
Email	graham.gadd@allenisd.org
Last Name	Gadd
Phone Number	972-747-3308
Campus	Ereckson Middle School
Main Subject	Science - Secondary
Grade(s)	<input type="text" value="7"/> <input type="text" value="8"/>
I have co-applicants.	<input checked="" type="checkbox"/>
<b>Social Media</b>	
Please provide your work-related social media contact information.	
Facebook	
Twitter	@ErecksonGGADD
Other (please specify)	

## Grant Co-Applicants

Additional Grant Applicants			
First Name	Last Name	Campus	Grade
Wes	Byers	Ereckson Middle School	7/8

## Describe details of the project

Grant Number	824
<b>Campus/Student Information</b>	
Your campus:	Ereckson Middle School
Will other campus' be involved/impacted by this grant?	<input checked="" type="radio"/> No <input type="radio"/> Yes
Your grade(s):	7,8
Will other grades be involved/impacted?	<input checked="" type="radio"/> No <input type="radio"/> Yes
<b>Project Purpose</b>	
What is the problem, need or opportunity that this grant will address? Describe the impact of this project on your students. (500 words or less.)	

Not every student has the opportunity to use a #D printer, however every student that take a STEM course should have the opportunity to use one. STEM is growing in schools and around us and so are #D printers. In STEM students learn to design

using computers and with the access of a 3D printer these students will be able to make their projects come alive. 3D printers used to cost so much money but now they are affordable and students are now able to get the experience they need.

### Project Description

How will the project or program be implemented? Describe activities and tasks.  
Who is the target population and in what ways will they benefit? (500 words or less.)

There are 9 classes at Ereckson Middle school. Having access to 3D printers will allow us to design objects using tinkercad and then print that object. We teach the engineering design process and using a 3D printer will compliment our instruction.

### Project Summary

Provide a brief summary for use on the Foundation's website and social media. (2-3 brief sentences)

When students complete a project we can share these projects on the Foundation's website and social media. This shows that we are current in our STEM teaching and attractive to people wanting to move to Allen.

### Allen ISD Goals/ TEKS

Which Allen ISD goals/TEKS does this project support? Provide only two or three examples.

1. Principles of Applied Engineering provides an overview of the various fields of science, technology, engineering, and mathematics and their interrelationships. Students will develop engineering communication skills, which include computer graphics, modeling, and presentations, by using a variety of computer hardware and software applications to complete assignments and projects. Upon completing this course, students will have an understanding of the various fields of engineering and will be able to make informed career decisions. Further, students will have worked on a design team to develop a product or system. Students will use multiple software applications to prepare and present course assignments.

2. The technology applications curriculum has six strands based on the National Educational Technology Standards for Students (NETS-S) and performance indicators developed by the International Society for Technology in Education (ISTE): creativity and innovation; communication and collaboration; research and information fluency; critical thinking, problem solving, and decision making; digital citizenship; and technology operations and concepts.

### Measurement

What specific measurements will be used to evaluate the effectiveness of the project? (500 words or less)

The best source of measurement is going to be the products been made from the 3D printers. Students will print items they make on the software we use which is then translated to the 3D printer. This is the end product and their grade. Students will actually walk away with something from the assignment.

### Teaching Methods

What teaching methods will be used to implement this project? (500 words or less.)

In STEM we cover several fields of engineering. In each module students create a 3D version of their project. The engineering design process teaches students how to use prototyping as a measurement of perfection in the engineering world. Companies use 3D printers to prototype in order to show off their examples and to sell their products. We are teaching students this process. Their work comes to life. We will teach students different computer design programs and then use these programs to print items. The method used is essentially project based learning, where students will be creative in their designs.

### Timeline

What is the project timeline and the date of implementation?

STEM is a semester course. Both semesters will use the 3D printers throughout the semester.

### Curriculum/System Support

Explain how this idea or project enhances/supports Allen ISD curriculum or existing systems.

STEM and engineering in Allen has grown over the last few years. There is now a STEM endorsement students can take in HS, students can take dual credit engineering courses through Collin College, and next year the STEAM center will be opening expanding the field of STEM education and engineering even further. We need to expose these students at a young age so they can become life long learners and advance in the fields of STEM in the HS. The robotics programs in Allen have also become very popular.

**Budget details**

Budget Details \*\* All awarded funds will be available by September of the next school year.

Budget Item	Item Type	Unit Cost	Quantity	Total Cost
Maker Select 3D Printer v2	Other Expenses	299.0	3	900.0
Premium 3D Printer Filament PLA 1.75mm 1kg/spool,	Other Expenses	20.0	5	100.0

BUDGET TOTAL 1,000

Are there any additional funds available for this grant? Campus or District Funds? PTA funds? Let us know if you have or will be seeking funds from other sources to help with this project.

Additional funds?  No  
 Yes

**Signature page and principal contact**

Principal Approval Required

**Please provide the Name and Email of your PRINCIPAL. (Not your name)**

First Name	Last Name	Email Address(Completed)
Leslie	Norris	leslie.norris@allenisd.org

Applicant Signature

By entering my name below I signify that I understand that if I move within the District and have written the grant myself, I may take the grant with me to my school (as long as it is appropriate for my classes). If I have written the grant as part of a team, I will leave the grant behind with the team. If I leave AISD, I will leave the grant with the school for which I wrote the grant. As a condition of this grant, I will complete an evaluation form provided by the Foundation.

Signature Graham Gadd

Date 01/30/2018

**Principal's approval form**

I certify that this would be a good use of funds for our school and this grant supports the district goals and/or our campus improvement plans. \*\*Do NOT include any identifiers, such as: campus name, your name, teachers name or mascot \*\*

No actions possible.

Comments

Approve

**History and final disposition of application**

State Change History

State Change	***** 01/31/2018 14:00:38 Submitted
State Change	***** 01/31/2018 14:15:18 Accepted

Grant Status

Grant Awarded  Yes  
 No

Award Amount