



2018-19 Duke Energy Foundation STEM Grant

DEADLINE October 18, 2018 4:00 pm Foundation Office via Jackrabbit or Email

- This Classroom Grant is for 2018-2019 school year.
- Funds must be used to address a STEM related project.
- All funds must be used by May 1, 2019. A final program evaluation must be submitted by May 15, 2019.

Contact Information	
Applicant Name: Kathleen Congleton	Position: 5 th Grade Teacher
School: The Villages of Elementary of Lady Lake	
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Email Address: congletonk@lake.k12.fl.us	

Detailed Project Information
Project Title: STEAM Club and STEAM in the classroom
What priority area(s) will your project address: Science, Technology, Engineering, Art, and Math
What is your estimated start date: October 22, 2018
Estimated number of teachers who will participate in this project: 1
Estimated Number of Total Students Impacted by project: 66
Grade Levels to be Addressed: 5th

Program Background:

STEAM is taught within the classroom curriculum as well as an additional club after school where the participants will compete in a competition in March. I teach at a public school in Lady Lake, FL. Our school has a variety of students who are diverse in cultures, economic backgrounds, and learning abilities. I teach 3 classes of 5th graders – on average 66 students – Science and Social Studies. I also lead the STEAM team for 5th grade, which is composed of 15-20 students from all of the 5th grade. In teaching 5th grade science, students are required to learn a variety of contents and apply their understanding to a multitude of situations. Students must master many standards that require them access many different resources, for example: SC.5.N.1.1: (DOK 3) Define a problem, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types. To achieve this goal, students will need to utilize multiple sources, including technology.

Students will create STEAM projects within each category of science as well. They will follow the engineering process for the STEAM projects. One of the main components of STEAM is that students need to complete research before they design their engineering projects. By researching topics and studying projects other students and scientists have created, students will create greater advancements in their own projects. Currently my classroom has 5 working desktops and 5 laptops that occasionally work. I would like to purchase 20 Amazon Fire tablets. These would allow students access to a variety of websites and apps that could help students further their understanding and broaden their knowledge base of science and engineering. By making the resources more accessible, the students will build a love for science and foster the next generation of scientists and engineers.

Project Summary:

Students will work through various problems and scenarios where they will need to complete a task using science and math, as well as create engineering projects that will solve a problem with a group of other students. The students use technology to help guide them, complete research, and further their creations. Technology will be implemented while students are using scientific knowledge and processes to solve practical problems. Students will use the Fire tablets for various activities. They are expected to document their projects and share their investigations with others, just as scientists are expected to do in the field. Students also need to complete research after they have stated their purpose and hypothesis for the investigation. With tablets, I will be able to guide the student's research with the help of QR codes or giving them specific, valid websites that have dependable resources. Moreover, the students have access to a variety of websites that will help them master content such as IXL and Quizlet. The tablets would allow the students to use the technology with ease, in ways the desktops are not capable. Many of our students do not have access to technology outside of the classroom and these would allow them to gain skills they would need throughout their lives.

Need: We are in need of working technology to allow students to further their projects. I would like to use Amazon Fire tablets for the students to access the technology they need to be successful in class and master the content required. Our school is a Title 1 school; currently 83% of our population qualifies for free or reduced lunch. Many students do not have access to technology at home. Low-income students who attend low-income schools are more likely to have very limited access to STEM resources, classes, and experiences. Currently, low-income students in the U.S. account for only 14% of students in the nation's top 200 postsecondary institutions. Our school's focus is to create opportunities for all students to be successful and achieve higher education, notwithstanding their intense need for access to costly resources. Students at our school would greatly benefit with the opportunity of being exposed not only to STEAM content, but also the technology used with these strategies.

This year we also began an inclusion structure in our classrooms. The students in the classroom have a variety of needs and learning styles. They would benefit from using several diverse tools to enhance their learning. The way STEAM courses are designed, they are meant to be hands-on and applied learning where students can make a connection between the practical and the theoretical. These interactive devices will be a more engaging way to teach students with learning disabilities.

Project Goals and Objectives: STEAM allows students to be creative and use problem-solving skills while mastering their science and math standards. Students will demonstrate an increased proficiency with technology and internet research. Students will become motivated to pursue careers in the fields of greater need, science and math. Students will learn to solve problems independently and with their peers. Students will improve in their overall science proficiency. Even though it cannot be measured, students growing in their desire to be successful in school and willingness to work within the various fields of science will also benefit the students.

Evaluation Plan: Students' mastery of the standards can be measured through their grades and individual STEAM projects. The STEAM team will compete in the county STEAM bowl. Gains will be measured in the students' FSA scores, improved grades, and increased participation and enthusiasm in class.

Budget		
Category of Expenditure	Dollar Amount	Related Activity
Computer Hardware		
Computer Software		
Other Equipment (not computers)	1,070.00	Using tablets as technology in STEAM program.
Competition Registration Fees		
Program supplies		
TOTALS	1,070.00	

Program Approved By:  _____

Principal

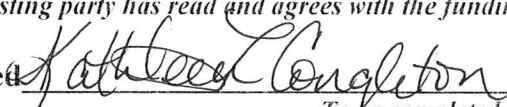
Funds Payable to: The Villages Elem. of Lady Lake

Address: 695 Rolling Acres Rd

Lady Lake FL 32159

Phone: 352-751-0111 Email: CongletonK@Lake.K12.FL.US

Requesting party has read and agrees with the funding policies of the Educational Foundation.

Signed  _____ Date 10-12-18

To be completed by foundation staff/board

Program meets Duke Energy Foundation's Mission/ Funding Policy _____ Y _____ N

Director Recommendation: _____

Executive Board Recommendation: _____