

2014-2015 Educational Grant Application

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| Submission Date | 2014-03-26 12:17:36 |
| Name of Grant | STEM/Robotic |
| Primary Contact | Kevin Lidington |
| Applicant E-mail | kevin_lidington@allensisd.org |
| Phone Number | (972) 727-0340 |
| Additional Teachers/Staff who are applying for or will be working with this grant: | Sonya Pitcock |
| Campus | Curtis Middle School |
| Curriculum Area | Career & Technology |
| Grade Level(s) | 7th-8th |
| Students Impacted | 30 |
| Approver Name | Sonya Pitcock |
| Approver E-mail | sonya_pitcock@allensisd.org |
| Project Purpose | <p>I teach and coach Robotics at Curtis Middle School. I had the opportunity to be a part of the COCO BEST Robotic tournament this year where we competed against other schools from the Dallas area. This competition is not just about creating a Robot but also marketing your robot, writing about what your robot is going to accomplish, T-Shirt designs and other areas as well. All in all the students learn the basics on how to create a robot, present to judges, goal setting, web design, business ethics, decision making, leadership and money management. During the club and class I found that all students really wanted to be a part of designing and creating the robot, not the other necessities. That is where the problem began. I had 30 kids sign up to work with only one robot and I had to assign students to different areas of the competition therefore not everyone was happy about being left out of the robot. They also missed the whole basis of the competition and club – “The Robot”. Therefore, to allow all my students that opportunity to work on a robot, I would love to have six robots so I could have a 2:1 ratio with students to robot. This would allow more opportunity for students to create a robot themselves as well as learning how to program the robot to be able to do certain functions. I want my class and club to be better prepared for future high school Robotic, STEM or engineering classes. If I get more kids focused and involved now, they could choose this career path and this be the foundation to their future education in STEM.</p> |
| Project Description | With the help of this grant I will be able to purchase six VEX |

Robots, sweep away field, game object set and programming needed for all robots. That being said, I hope to be able to keep classes small enough to really give students hands on experience where they engaged in creating a robot to do certain tasks and functions. Not only will they be creating a robot but also they will learn the programming side of how to make the robot perform certain tasks. This will help students see the bigger picture when and if they decide to take programming class at the High School level. Furthermore, if the students have hands on experience at the middle school level than they will be much more equipped and prepared when they take the next level of robotics, STEM or engineering classes at Allen High School.

Allen ISD Goals/TEKS

1) TEKS: Subchapter O. Science, Technology, Engineering, and Mathematics TEKS §130.361 thru §130.374
2) Allen ISD Goals: Career Portals goals in Science, Technology, Engineering and Math Resources.

Measurements

I will be able to evaluate the effectiveness of the project as students begin to create real tangible working robots while at the same time programming their robot to perform certain tasks. The neat thing about this project is that they are able to apply things they have read or heard about and make it a reality in creating these machines. This is a hands on project to which it is easy to evaluate their progress in creating these robots.

Teaching Methods

My goal is to at first show them myself the breakdown of the robot itself – parts, pieces, controllers, program itself, how the field is used, etc. Then I plan on breaking the students into groups of two in which they will come up with a plan to create a robot to perform a specific task. Once this is reached, I will allow them to begin and coach them as they progress through this task. Again, this is a hands on project where the kids will create a tangible object in which kids are always highly engaged.

Timeline for Project

My plan is to implement this project at the beginning of this next year starting in August. After talking to my principal, Sonya Pitcock, we want to make this into a yearlong class allowing both 7th and 8th graders the opportunity to participate.

Curriculum/System Support

Allen ISD promotes STEM education and sees the importance of giving the opportunity to take classes that support engineering, STEM and robotic classes. That being said, this robotics class would give middle school students the edge going into high school being better prepared to take those classes that Allen High School has to offer. It will also help reinforce English, speech, leadership and math curriculum in hopes to improve their STAAR results and overall grades.

Additional Comments

I am passionate about getting kids involved in STEM. I believe that getting students involved with Robotics is one of many ways to get kids involved and passionate in school and their education.

Instructional Supplies or

Swept Away Classroom Bundle VEX Robotics Kit

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| Resources | http://www.vexrobotics.com/vex/classroom/classroom-competition/278-3333.html |
| Supplies Budget | 1,000.00 |
| Technology | N/A |
| Technology Budget | 0 |
| Staff Training / Staff Development | N/A |
| Training Budget | 0 |
| Transportation/Field Trip | N/A |
| Transportation Budget | 0 |
| Other | N/A |
| Other Budget | 0 |
| Total Budget | 0 |
| Additional Funds | This will cost a total of \$5,000 of which my principal, Sonya Pitcock, is going to pay for the remaining cost of \$4,000. |