Classroom Innovation Grant Application *(formerly Venture Grants)*

Deadline - October 27, 2010

Overview

The information that you will include in the attached application form will provide the LPEF Grants Committee with the data needed to determine whether or not to fund your project. Applications may be from staff, students, parents or community members who partner with School District of La Crosse staff. Applications for other opportunities with the Foundation are available for download on our website at www.lpefonline.org.

Guidelines

- Grants must serve the students in the School District of La Crosse.
- Projects must be innovative, creative and new funding initiatives within the School District of La Crosse.
- The grant may be denied if another funding source might be more appropriate.
- Project funds must be spent by May of 2012.
- Interim and final reports will be required.
- Payments for services of La Crosse School District employees are prohibited.

Criteria

Applications will be reviewed on a competitive basis by the Grants Committee of the La Crosse Public Education Foundation. Priority is given for Classroom Innovation Grants that:

- meet multiple educational objectives
- align with district/school/curricular goals
- impact a variety of students and/or schools
- are collaborative
- are sustainable

Please see the Classroom Innovation Grant evaluation rubric for the grant proposal evaluation criteria. Although most applications are worthy of awarding, the committee has limited funding and must set priorities that help the foundation fulfill its mission.

Instructions

- € Complete the following grant application.
- € Save as a Word document. Name the document the same name as your grant proposal.
- € Print page 1 of the application. Sign and obtain other necessary signatures. Submit a paper copy of page 1 to the La Crosse Public Education Foundation at Hogan via inter-school mail or by mail to P.O. Box 1811, La Crosse, WI 54602-1811.
- € Submit the entire application electronically to lpef@centurytel.net.
- € Both the paper copy and electronic copy must be received no later than 5:00 p.m. on October 22, 2010.

If you have questions, please contact Geva Thole at 608-397-0176.

La Crosse Public Education Foundation
Classroom Innovation Grant Application

Section 1: Personal Information:

Name : Charlie Stoflet

School: Central High School

Position/Title: Science Instructor

School Phone: 789-7900

Section 2: Basic Project Information:

Project Title: The Rhythm of Life; The Heart Beat

Total Request $ 1,202

Signature of Applicant _____

Signature of Principal _____

Signature of IT Department Rep (if applicable) _____

The intention of the Foundation is to fund projects not covered by the regular school budget. Please document that regular avenues of funding have been exhausted. (i.e. requests to Principal and curriculum supervisors)

Section 3: Project Description:

I. By June 2011 (or sooner, June 2012) depending on when the funds and the sensors are received the students will complete lab experiences related to heart rate, blood pressure and EKG sensor s . The results of the experience will allow the students to use modern technology to gather and analyze data. Moreover ,the data will be collected in real time for quick results be data collected from the students as subjects themselves. I have found in my 20 year teaching experience that when students see relevance to the lab experience they are more interested and motivated

II.

Objectives of Project	List the corresponding district/school/curriculum goals (if applicable)	State how you will evaluate whether objectives are met.
Collect Data about heart physiology.	High School Goals in Curriculum Book 1-Develop, and apply problem solving, critical thinking and information gathering skills 7-Function in an ever changing technological environment. Science Mission Statement …… The curriculum will foster student involvement, provide scientific experiences and promote critical thinking and logical inquiry.	Student perform labs and collect data.
Analyze Data Collected	District Ends Policies E-2 Academic Achievement Goals c. Develop higher order thinking skills High School Goals and Science Mission Statement as written above.	Students complete lab data analysis –including direct data and application questions.
Students pose other questions that they have about heart physiology and how to use the sensors in the pursuing the answer.	All of the above goals and District Ends Policies E-2 Academic Achievement d.. Develop and exercise creativity in problem solving and self expression	Students brainstorm other lab ideas that could be done using the EKG, heart rate or blood pressure sensors , perform the lab and share results.

III.

Activities to Accomplish Objectives	Who Will Be Responsible for Implementation	Resources Needed (not financial)	Timeframe to Accomplish
Training/experimenting with the sensors	Teacher	In-house training with Logger Pro Hand-held and Graphical Analysis Programs. Physiology Lab book from Vernier.	1month
Familiarize Students with sensors and graphing programs.	Teacher	Same as above	The week the labs are run.
Perform Lab Activities	Teacher	Same as above	2-3 days

IV. What is the lifespan of this project?

Indefinite- as long as the sensors function and are maintained. The sensors are high quality. Joe Anglehart has many sensors used in his Physics and other Physical Science courses for many years. Data collection and analysis in science has no end!

V. Approximately how many students will be affected by this project? Explain your number.

In contacting other teachers in my department I would estimate at least 200 students a year will perform a variety labs using the sensors.

VI. Please state how you will collaborate with…

Other organizations in the community (if applicable)

Although not part of this grant I could see bringing in cardiac specialists to emphasize the real world applications- heart health and careers.

Other schools in the district (if applicable)

If I receive the probes I will communicate with middle and high schools and share availability of the sensors. We are a community and sharing our resources is a best practice for a successful school district.

Other departments/classrooms (if applicable)

Within my building , other Biology and Anatomy and Physiology teachers have expressed an interest in using the sensors.

VII. What will happen to the project at the conclusion of the grant? If it is to continue, how will it be sustained?
The idea of this project is data collection , analysis and critical thinking skills. These are life-long, commonly shared goals in science. These skills are life long.

VIII. How could the project be shared with other teachers and schools to benefit more students?
I will communicate with other buildings and teachers the resources I have available. If needed, I can offer in-service on the use of the sensors and the programs to complete the labs.

Section 4: Budget Information:

Item	Supplier	Budgeted Amount
Physiology Lab Guide	Vernier	$50
3 EKG Sensors w/300 electrodes	Vernier	$477
3 Heart Rate Monitors	Vernier	$360
3 Blood Pressure Sensors	Vernier	$315

Total request: $1.202

Other sources of funding for this project (if applicable):

Total budget to accomplish project: $1,055
I envision the students in a classroom divided into groups that will be doing different labs with the various sensors. My request is for a total of 9 sensors—thinking of 30 students working in groups of three. They will rotate the sensors to make the most efficient use of the variety of labs that can be done instead of just getting 9 of one sensor. I have attached the list of labs that can be done with the three sensors provided but the students can be creative and create their own labs they would like to investigate.

Blood Pressure Sensor

- Blood Pressure and Exercise
- Blood Pressure as a Vital Sign
- Diurnal Blood Pressure Variation
- Heart Rate and Blood Pressure as Vital Signs
- Heart Rate, Blood Pressure, and Exercise

Hand-Grip Heart Rate Monitor

- Effect of Coughing on Heart Rate
- Heart Rate and Blood Pressure as Vital Signs
- Heart Rate and Exercise
- Heart Rate as a Vital Sign
- Heart Rate Response to Baroreceptor Feedback
- Heart Rate, Blood Pressure, and Exercise

EKG Sensor

- Analyzing the Heart with EKG
- EMG and Muscle Fatigue
- Introduction to EMG
- Muscle Function Analysis
- Neuromuscular Reflexes (with Accelerometer)
- Neuromuscular Reflexes (without Accelerometer

Section 5: Summary:

How will this project bring visibility to LPEF in the community?
If I receive funding for this project I will acknowledge the LPEF in the Central Link Newsletter and I will credit the LPEF for the materials whenever I communicate about the activities done in this project.

Please provide a one paragraph summary of your project including an explanation of why we should fund your project.

The idea for my project stems from a colleague of mine, Joe Anglehart. Joe has used data analysis and Vernier sensors in his physics classes for many years. Students see real time data and analyze it. He has the technology that I will need to use in conjunction with the sensors that I have requested. I want to take a similar approach to labs but in the biology classroom. The use of the sensors that I have requested will start that approach. The students will be the test subjects for a variety of labs when we are studying the cardiovascular system, although I can see this applying to just about any topic since data collection, analysis and critical thinking are infused in science all of the time. The students will print graphs of their data, analyze it and could also create their own experiments based on their interests.
Reviewing the criteria for grant approval, I believe my grant request meets the guidelines for approval. The goal of this project is to promote technology, data collection, analysis , critical thinking skills and creative problem solving. These are all part of the educational objectives for specific curricular areas as well as meeting the district's ends policy objectives. As I have contacted other teachers about my request the sensors and lesson plans will be available to other teachers in my building. In addition, I will also communicate with other buildings the materials I have and how they can be used in the classroom. If needed, I will provide instruction to those teachers that want to use the technology but may not feel comfortable with the implementation. As teachers we are community that needs to work collaboratively to enhance and be proactive in our teaching methods. Too often science materials are consumable and lab supplies need to be replenished annually. With the technology already available , (hand-held computers) through the Physics department I can use the sensors for an indefinite amount of time. Therefore, this is a sustainable project. To get a better understanding of the labs that are performed with the sensors I encourage you to visit the link below to a specific lab format. This is just a sample but it will illustrate the data collection, analysis and problem solving skills I want to incorporate.
http://www2.vernier.com/sample_labs/HP-A-12-COMP-analyzing_heart_ekg.pdf

Thank you for considering my grant proposal.

Charlie Stoflet