Grant Funding Paper

Proposals for Grant Applications

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ET 680

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Vernier Software and Technology, makers of science technology probeware, are giving away 30 $10,000 grants to be used to purchase Vernier science probes and software <http://www.vernier.com/30years/>. The applications for this year are due June 1, 2011 and the winners will be announced by September 15. Any state accredited school with 500 or more students in the United Sates may apply, including post-secondary colleges. The equipment that is received by the school becomes the property of the school, not the individual teacher.

There are two questions that must be answered in the application. These questions would be answered by the science teachers as a collaborative effort, since the equipment would be used by all science teachers and thus benefit all of our middle school students.

1. Please describe how your school or college department would use this grant to further the school's STEM goals or create engaging hands-on experiments for science or engineering students. Include any innovative ideas and your concrete plans for implementation. **500 words maximum**.
2. Please tell us a little about your school or college department and how this technology grant would be beneficial. Include any information that demonstrates financial need, if applicable. **250 words maximum**.

I have started an application at this web address: <http://30years.vernier.com/load/4da24d70>.

I attended the NIST Summer Institute for Middle School Science Teachers in July 2009. At that time I received a Vernier Labquest, LoggerPro software and site license for the science laptops, and various probes to be used with the Labquest. Having received only one Labquest and one set of probes, I am only able to use this equipment for demonstration purposes. However, in my professional development sessions in 2009 and continuing in 2010 and 2011, I have seen how powerful this equipment could be if each lab group of 4-5 student had their own Labquest to use in class. The students would become interactive with the equipment, rather than observe only. In the process, students will develop skills in scientific processes, interpreting scientific graphs, and thinking critically about science.

The Vernier equipment is suitable for use by all grade levels. There is a short introductory video at <http://www.vernier.com/labquest/video.html> . The probes are created for physical sciences, chemistry, and biological sciences. There are simple probes, such as light and temperature, as well as voltage, pH, and gas pressure sensors which have applications at all grade levels of science. At Harper’s Choice, all grade levels focus on environmental issues for service learning, the probes for turbidity, dissolved oxygen, carbon dioxide, and oxygen can be used in a variety of ways for checking air and water quality. All of the probes connect through the Labquest to record and save data on the Labquest and/or the computer itself.

Our school is economically and racially diverse, having 66% non-white student population and 27% receive free and reduced meals. Our students of today lack the investigative skills of scientific thinkers, yet become excited when technology is put in their hands. A classroom suddenly becomes alive when the computers are used just for observing simulations and relating it to scientific concepts. With the Labquests, our students could connect them to the science laptops, create graphs of their work, save the results, and then go on to create screenshots, screencast movies, podcasts, and blogs to share their investigations and their work with the community and the world. Scientific inquiry would become global and interactive by inviting others to view and comment on student work. These skills will remain with our students as they take the science MSA in 8th grade, the only test they take that covers 3 years of information. In order for students to do well on this test, the skills and processes they have learned must be retained and applied to the situations described on the test.

 Applying for this grant, and winning, would give our school 6-8 Labquests and probes for each, using the $10,000 allowance for equipment. This grant application is simple enough that we should be able to complete a written response within the time frame, and enlist the help of other teachers in the building for proofreading and editing. The equipment received would benefit all students in the building in both science class and service learning activities. In addition, students should receive higher scores on the science MSA after this equipment becomes implemented, along with the science laptops we already possess. It is only a matter of time before science MSA scores become integrated into the AYP process; applying for this grant now allows time for teacher training (free workshops from Vernier) and integration into both classrooms and service learning before that time. Although we will put our best effort into the application process, we need to remember that only 30 awards will be given this year nationwide. However, we can’t afford the equipment on our current science budget, and we cannot win if we do not apply!

Science teachers in Maryland are strongly encouraged each year to apply for the MD Association of Science Teachers Mini-Grants (<http://www.emast.org/7.html> ). These awards are for supplies and equipment for the science classroom that will help instruction. There is a limit of $500 per award. Although the current year deadline has passed, we should consider applying next year for this grant. The Maryland Association for Science Teachers (<http://www.emast.org/5.html> ) only requires that the applicant be a member of the association. The application should include a time-line, budget, and plan for evaluating the project. The project needs to incorporate the National Science Education Standards, Project 2061, and MD State Department of Education Content Standards. The project must also indicate how many students will benefit from the project, preferably students from more than one grade level.

Nationwide, there is a movement towards STEM education. At Harper’s Choice, we are falling behind in these areas. We currently have our own science laptops; finding appropriate sites for all the science objectives is difficult. In addition, our students are performing below the expected levels in science skills such as interpreting graphs, applying math to science, and using inquiry to solve problems. I am proposing that we apply to MAST for funding for 2-4 video cameras to use with our science laptops, plus the software necessary to convert the digital film to QuickTime to be used with iMovie.

The project the cameras will be used for will be an interactive vocabulary list. Students can record definitions of science terms, and demonstrate the meanings on film, for a video science dictionary. This video dictionary can grow with the students as they move through grades 6, 7 and 8. The videos will help students prepare for unit tests and quarterly assessments. During the 8th grade year, these videos can be shown, studied, and posted on the web for students to use for reviewing before the Science MSA. Our students will need to make AYP on the Science MSA in the near future, and this test covers 3 years of material. Our current method of preparing students with workbooks and worksheets is not meeting the needs of today’s students.

In order to incorporate vocabulary and writing skills, the grade level reading teachers will assist students in creating their scripts, proofreading, and pronunciation guides. In this way, the science and reading teachers will collaborate to create a high quality product.

The grant proposal requires separate page/s submit a minimum of a paragraph each addressing the following points:

* The project time-line including projected date for required article for the MAST Rapper
1. A plan for evaluation
2. How your project incorporates the ideas of current science education reform movements
3. A detailed budget for the project, including names of suppliers (not to exceed $500). (Receipts of expenditures will be required by the MAST treasurer.)
4. **A principal letter that shows evidence of their understanding of the scope of the project and that they concur.**

This grant is apparently under-utilized by MD science teachers. With a creative approach for a project to carry students through grades 6-8 science, creating a lasting tool to help students prepare for the MD State Assessment in Science, the grant is more likely to be approved. At this point the problem is that applications have closed for this year. In order to bolster our application, the project can be started using the webcams built into the laptops. The video will not be as interactive as a portable camera, but it will give additional support for our proposal in a year.

The MSET (Maryland Society for Educational Technology) provides funds to promote technology use in classrooms. Grants must be for $700 or less and the equipment or software purchased must incorporate technology to increase student learning in Maryland schools. Applicants must be members of MSET before applying, but the membership can be paid as part of the grant application process. <https://www.msetonline.org/grantsawards/grantapplications> .

The grant writing process needs to include the following items. The MD Technology Literacy Standards must be clearly identified within the grant proposal. There must also be an outline of when the activities will take place as well as when the activities will end.

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| D. Lists the item(s) being requested, the planned use/purpose, and the cost of the item(s). If the total cost exceeds the amount requested, indicates how additional funding will be obtained. |
| E. Clearly describes how the program will be assessed.  |
| F. Clearly indicates which Maryland Content Standard and/or VSC Standard, Topic, and Indicator will be addressed by the implementation of this program. |
| G. Clearly indicates which *Maryland Teacher Technology Standard* will be addressed by the implementation of this program. |
| H. Clearly indicates which *Maryland Technology Literacy Standard for Students* will be addressed by the implementation of this program.  |
| I. Includes a realistic timeline for implementation that includes: Activity, Person Responsible, Start Date, Completion Date, and Evidence of Successful Completion.J. Clearly describes how implementation of the proposed program will improve student achievement and address an instructional need in a new and creative way. |
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Our students at Harper’s Choice have difficulty with writing. The reading teachers have found success with writing when students read back their written pieces into the computer and then listen to what they have written. The problem becomes noise levels- the students cannot hear their own work due to the volume of 20 students reading out loud at once. With headphones and microphones, the students would be able to hear their own work and then edit their writing until the quality of the written word equals the quality the students expect to hear. The students can also use these recordings to create podcasts of their work, which can be later posted onto the school website as examples of exemplary work.

This grant is geared towards the advancement of MD students. This grant application will be easily completed by the technology committee with the help of the reading teachers. The headsets that will be purchased can be used with the laptop mobile labs we currently use in classes. These can be supplemented with digital voice recorders that are hand-held and easily used by students. Our students need assistance with their reading and writing skills, and this simple tool will allow our students to correct their own mistakes in writing, rather than relying on peer editing or the teacher’s corrections. Our students will transform their writing process, solving problems on their own, resulting in more independent learners.

One advantage to applying for this grant is that the awards are distributed throughout the state of MD, rather than regional or nationwide competition. The recipients must present to the conference, but the conference is local and thus easily accomplished. Applying for this statewide grant will also bring recognition to the dedication and determination of our reading teachers. One reason that this award will be difficult is that the deadline for applications has passed; we will need to wait until fall in order to apply. In addition, the funds we receive will cover only a limited number of pieces of equipment, not enough pieces to cover any one grade level or class. If the project is successful, perhaps the PTA or the principal will cover the costs of additional equipment.

Unfortunately, two of the grant deadlines have passed for the current year. There is an interesting program at <http://www.donorschoose.org/teachers> . Either, or both, of our smaller grant proposals can be posted immediately at this site, where anyone can contribute to a project. We can publicize our projects within our own community and PTA, as well as gain national exposure and hope for full funding.

The benefit to this site is that our needs will be met by a variety of people giving only small amounts of money at a time. Parents, teachers, and any interested reader can donate to our project. There is no competition for moneys in a formal sense; any interested party just contributes whatever their budget will allow to the project. The disadvantage with this site is that we may not receive enough to fund a project. The site purchases the equipment upon completion of raising the funds; there are no partial awards.

The school representative, who will post the project, needs to send a short description to the site as well as a photo. In addition, the focus is on low-income schools. Our school will be considered moderate poverty, since we fall in the 10-40% FARMS population. There is no cost to apply. Once the school is approved by the site management, that teacher can post the project to the site. Tips for posting projects are listed at [http://help.donorschoose.org/app/answers/list/session/L3RpbWUvMTMwMjU3NDM0MC9zaWQvX0E2MlNmcms%3D/c/10,30](http://help.donorschoose.org/app/answers/list/session/L3RpbWUvMTMwMjU3NDM0MC9zaWQvX0E2MlNmcms%3D/c/10%2C30) . Once the proposal is approved, the project is open for donations. It is a very simple process that may result in our project getting started.

The listening headsets and/or the science cameras are both perfect projects to get a start with this type of grant. The site recommends using an appealing title and a “heartfelt” essay. Projects that are requesting between $100 and $400 are the most likely to be fully funded within a few months. This looks to be a supplemental option for project funding and has endless possibilities.