

Skyview Science Professional Development Project

*Dewey J. Hansen & Helen Cothron Hansen
Memorial Fund*

Skyview High School Science Dept.

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Application Form

Project Name*

Name of Project

Skyview Science Professional Development Project

Amount Requested

Amount Requested

\$15,926.00

Grade Level

Please select grade level below.

9th-12th Grade

Primary Subject Area

Please select the primary subject area of your grant.

Science

School

Please select your school from the list below.

Billings Skyview High School

Number of Students Served

Please enter the number of students that will be potentially served by this grant.

1600

Project Cost

What is the total cost of your project?

\$15,926.00

Statement of Need

Please describe the need for this project. For example, how will this project impact student learning?

Students will gain practical experience in the field and in the classroom. Taking students on field trips provides hands on opportunities and allows them to see how classroom concepts relate to real world experiences. Field trips also allow students to participate in the process and allow instructors an opportunity to explain how trips are organized and implemented. These types of explanations will give students experience that will relate to business practices in project development. Lab materials purchased with this money will provide STEM experiences in the classroom. Having access to current labs and materials prepares students for experiences in higher education and the work place. Sending teachers to conferences provides

an opportunity to stay current on best practices. Conferences also allow exposure to cutting edge technology and research in the STEM arena.

Primary Goal

Please describe the primary goal of the project and how it blends with School District 2 goals and curriculum.

The primary goal of this project comes in three parts:

Part 1: To increase student opportunities for lab oriented, hands-on experiences.

Part 2: To provide professional development opportunities for staff.

Part 3: To provide field oriented experiences for students.

Project Description

Briefly identify the major activities and materials involved in your project.

The Skyview Science Department project consists of the following activities to increase student achievement through the broadening of scientific experiences of Skyview students. This project goes beyond the scope of the classroom environment, as well as the professional growth of the educators who are responsible for the continued growth and development of all students.

1. Chemistry and Carolina Bio Rad kits provide the biology and chemistry students with inquiry based resources for cutting edge STEM labs.
2. Send teachers to content appropriate professional development conferences that serve the diverse and highly specific curriculums of our science department.
3. Taking students on field trips and scientific exploration opportunities.
4. Giving students an opportunity to see what career and college options are available for them in science and technology.

Professional Development

If your project includes professional development, how will it improve student performance?

The professional development opportunities in the proposal will help educators become better acquainted with STEM based curriculums like Project Lead the Way and Vernier probe training. Becoming more familiar with inquiry approaches to leading science instruction along with understanding how formative assessment is used in STEM based classrooms. Techniques to improve student achievement/ work completion/grading protocols and the idea of "Blended Learning" (balance of computers with traditional teaching) are examples of workshops offered. Another area is facilitating career exploration. These opportunities will allow us to share with PLC's and mentor our colleagues. The experience to attend National Conferences is rejuvenating to professional growth. Students exposed to exciting science content and challenging laboratory experiences will show an increased aptitude. Formative assessments created collaboratively during PLC time will assess student understanding of science.

Project Timeline

When will you implement your project?

The grant will be used during the 2015/2016 school year, culminating by the end of May, 2016.

Plan for Evaluation

How will you evaluate student outcomes for your project?

The student outcomes will be evaluated both objectively and subjectively. Students participation in the Shadow Days and Victory Garden will show that students finishing their education at Skyview are considering a career path in the sciences. An increase in student enthusiasm for science due to improved activities/labs/field trips should show in our standardized test scores.

Project Budget

Please identify other funding sources, if applicable. You may either type or attach a budget

Please see attached document.

Of the line items, the first 8 line items will be covered by the upcoming grant with the remaining 3 items (marked with an *) covered by unspent funds carried over from past years.

Project Budget 2015-2016 Dewey.docx

Supervisor Approval*

I have received approval from my supervisor to apply for this grant.

Yes

Attachment 1

Please attach any photos, pages from catalogs, or other documents below. This is optional.

Attachment 2

Attachment 3

File Attachment Summary

Applicant File Uploads

- Project Budget 2015-2016 Dewey.docx

Project Budget:

- Field Trip to Museum of the Rockies (Biology Class) - \$1500
- 2 staff to NSTA National Conference, Nashville, TN - \$2500
- Field Trip to Lewis & Clark Caverns (Geology Class) - \$1500
- 2 staff to NSTA STEM spring-2015 Conference - \$2000
- Field Trip for students to Yellowstone NP & Phipps Park (Environmental Science Class) - \$2000
- Field Trip for students to MSU-Shadow Days (Chemistry & Physics) - \$2500
- Field Trip to Yellowstone NP (Geology Class) - \$1500
- Chemistry Lab Materials (for General & Honors Chemistry) - \$1000

- Carolina & BioRad Kits (for Biology interactive learning) - \$2600*
- Skyview Victory Garden - \$2000*
- Field Trip to Sacrifice Cliffs (Earth & Environmental Science Class) - \$500*

Description of other Funding Sources:

Vernier & BioRad introductory training came from seminars at NSTA Conference sessions in 2011, 2012, 2013 & 2014, funded by Dewey grants. Beginning kits of Vernier probes have been purchased with money from a previous Dewey grant and from Skyview science department budget moneys. Hardware for using the BioRad kits has been purchased over the past three years by Skyview science department budget moneys.

We plan on attending three MSU-Bozeman Shadow days next year to offer experiences to students in each of three science curricular pathways. Bozeman offers shadow days in Engineering, Chemistry, and Health Services. We will supplement the funding by the Dewey Grant by having the students pay a small fee (possibly \$5 to \$10) to help pay for bus or van rental.

The field trips for Yellowstone National Park will be supplemented by charging the students a \$5 to \$15 fee to offset the cost of the bus.

The funding for the Skyview Victory Garden is coming from several sources. Skyview Principal Deb Black has secured funding, moneys from the Science Department, Family & Consumer Sciences Department, and Tech Education Department will all contribute. Nikki Wohler of the science department wrote a grant to the technology levy for hardware for a weather station that will be part of the Victory Garden, as well. For the upcoming year, we will write another technology grant to allow our Vernier interface to act as a GPS when out in the field collecting data.

*These line items will be funded by unspent funds carried over from past years.