

## **INCOSE STEM Grant Status Report: Spring 2016**

Vista Visions Academy (VVA)  
305 E Bobier Ave.  
Vista, CA 92084

Thank you for supporting our STEM efforts at VVA. The grant funds have made a significant impact on our STEM program as materials purchased are and will continue to be used for multiple grade levels, cross-curricular studies, enhanced science projects/investigations, etc.

### **Expenditures and Purpose:**

The awarded \$1,039.00 was used in its entirety to purchase 6 Compound LED High School microscopes. After researching for optimum pricing and quality, we were able to purchase 6 microscopes versus the 3 which were originally proposed. This is significant given the projected growth of our program and our implementation of cross-curricular project-based learning which focuses on solving real-world problems.

### **Accomplishments and Benefits:**

High school science students have utilized the microscopes, first to learn the essential skills of how to use microscopes properly, helping students acquire and develop essential skills of a scientist such as observational skills, paying attention to detail, data collection and analysis skills, questioning/inquiry skills, etc. Secondly, students have used the microscopes in investigations such as water quality of local water sources and protozoan studies. Thirdly, after becoming adept at using the microscopes and researching problems of choice, students designed their own investigations.

Our school also recently developed a new school-wide program, QUEST, which focuses on students working in multiple grade-level teams (K-12) to solve real-world problems of students' choice. The microscopes are now available as a tool for teams as they develop their area of interest, ideas for investigations and inventions. Age appropriate use is practiced such as the high school science students mentoring middle school students in proper use of the microscope, and elementary students working side by side with upperclassmen during their explorations and experimentation.

Being a blended learning home study school, we have a small full-time student population, however we offer concurrent enrollment for the entire district, leading to grant benefiting and impacting 100+ students this year. In addition, because the purchase of microscopes are nonconsumable, the grant is an investment in our future students as well.

### **Summary of Learning Impact**

These funds have enabled students to research real-world problems of interest with a problem-solving growth mindset. They have allotted us the opportunity to replace dysfunctional microscopes with microscopes that are used as a critical tool in student generated investigations. Learning science means doing science, and these microscopes have enhanced our abilities as teachers to incorporate inquiry-based lessons, and students to experience STEM firsthand. For years to come these microscopes will help students at multiple grade levels in multiple subject areas improve their abilities to investigate a broad range of science related issues and ultimately design ways to improve or solve real-world problems. Our school community is deeply grateful for the long-range impact on student learning this grant supports.