



PENINSULA
EDUCATION
FOUNDATION

CHUCK MILLER GRANTS

ELEMENTARY SCHOOLS

Jasmine Arjasbi ~ Silver Spur

Little Passports

With this grant 25 students will receive a monthly explorer kit from Little Passports focusing on a different area of the curriculum. The kits deliver hands-on discovery and adventure while inspiring children to learn about the world around them through science, social studies, math, reading, and writing. For example, the Social Studies kit is a suitcase containing everything each child needs to get started to become a global citizen: pen pal letter, map, passport, stickers, and access to online resources. Fun and actively engaging, these kits are the base for what is to be true 21st Century Common Core Learning as students will be reading and writing about primary sources in Math, Social Studies, and Science.

Jeri Berlin ~ Cornerstone

Writer's Toolbox Set of Books

This 9 title Writer's Toolbox series will help turn second grade readers into masterful writers. Each title explores genre-specific works to help engage and excite young readers and give them the tools they need to begin writing their own genre-specific pieces. Children's author, Nancy Loewen, has written these wonderful books in an engaging and entertaining manner, making the material not only informative, but also accessible and enjoyable to all learners. The Writer's Toolbox series aligns perfectly with the Common Core State Standards, allowing students to work collaboratively with peers on joint writing projects of informational texts, as well as literary texts.

Shannon Bogart ~ Soleado

Fractions Bars, Decimal Squares, Math Stars!

Two classroom kits of both *Fraction Bars* and *Decimal Squares* will help students understand the concept of fractions and decimals. By using highly motivational, concrete, hands-on activities in which they learn to identify fractions and their equivalents, students gain a deeper understanding of these concepts. Students of all levels benefit from the lessons, games, and activities.

Shannon Bogart ~ Soleado

Science Extravaganza

Materials and equipment will enhance a unit on the study of bacteria in our everyday lives. Funding will provide for two 40x-2000x binocular microscopes, one digital camera compound microscope for demonstration, and a dissecting microscope. In addition to the microscopes, class sets of bacteria growing kits will be purchased along with pipettes, petri dishes, beakers and prepared slides. Students will simulate and explore how germs are spread through contact by collecting and growing their own bacteria samples.

Anne Eggers Goggin ~ Lunada Bay

The Personal Super Hero Project

Personal Superhero project will allow students to explore the positive personal traits they already have that make them special and discover additional personal traits that they want to work on while practicing both their narrative and informational writing. The project is multifaceted and requires students to write several essays, make many drawings, including one life size drawing, and as an end product create a comic book with their own personal superhero. The computer program Comic Life 3 will allow students to produce a digital comic book using their own pictures and photos and a great variety of tools.



ELEMENTARY SCHOOLS

Helen Kim ~ Montemalaga

Elementary Engineers

Zometool Creator Construction Kits enable students to engage in problem solving and creativity while building upon their cross-curricular knowledge. Students will have the opportunity to build and identify 2D and 3D geometric models that promote pattern recognition, spatial relationships, and mathematical thinking, along with architectural and engineering skills. These amazing kits will be integrated into cross-curricular thematic units where students can take their mathematical knowledge and apply it towards building architectural structures as they learn about the various global communities found throughout our world.

Kimberly Libby ~ Vista Grande

Third Graders Diving into the Study of Opinion, Information, and Narrative Writing

This writing program provides 3 units with instruction in writing argument, opinion essays, information texts, and narrative texts. The material helps the student use a higher level of thinking as they synthesize, analyze and critique their own writing. The program is differentiated to each learner so that every student will benefit from the strategies and techniques offered in this writing curriculum.

Christina Lloyd ~ Dapplegray

Digital Classroom Library ~ Storia ebook Subscription

Storia ebook subscription will allow students in PreK - 2nd grade access to a comprehensive library of 1,050 fiction and nonfiction titles. The license includes access from school and home. Themes are cross-curricular including science, language arts, social studies, math, and emotional learning. The interactive ebooks can be used by the whole class with teacher activity cards that support vocabulary development and critical thinking skills. In a small group, students can use the leveled ebooks in a listening center to meet a student's individualized need.

Lori Marshall ~ Point Vincente

Solving Problems through Engineering

These three inquiry-based engineering units include background content, storybooks, vocabulary lists, lesson plans, duplication masters, teacher tips, suggestions for English Language Learners, data-collection worksheets and reflection worksheets. Storybooks from the real world introduce each unit with the tale of a child somewhere around the world who solves a problem through engineering. Students imagine, plan, create, test, and improve their designs through challenges that integrate literacy and social studies making STEM relevant.

Cathy Rodriguez ~ Rancho Vista

First Grade STEM Robots

Dash & Dot robots teach programming and coding lessons through music, mazes, paths and puzzles. The age-appropriate robots come with comprehensive lesson plans aligned to Common Core State Standards and Computer Science Standards, including critical thinking, problem solving, and decision-making. Dash & Dot use sensors to hear sounds, detect objects, and know if you are moving them. Students will learn to write a sequence of commands to create an algorithm, debug if their program doesn't work right, add and subtract multiples of 10, and write an algorithm for their robot to move forward in a line.



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Gina Tredennick ~ Vista Grande

Journey into Space at the California Science Center

A field trip to the new exhibit, Journey into Space, at the California Science Center, will provide an excellent opportunity to awaken students' curiosity. This special exhibit on space travel, details the lives of astronauts in space, the activities aboard the International Space Station, and the ongoing research of the Destiny Lab. Both California Science Standards and Next Generation Standards encourage fifth graders to develop an understanding of space, gravitational forces, and our solar system. Attending the exhibits will tie in the Project Lead the Way curriculum for 5th grade which demonstrates how technology and robots are used during space exploration.

INTERMEDIATE SCHOOLS

Robyn Benjamin ~ Miraleste Intermediate

Measuring Up to Science

Measuring matter is an important part of eighth grade physical science curriculum. This grant will provide funding for measuring equipment needed for science labs. Metric sticks, spring scales, triple beam balances, cylinders and test strips are necessary to fully equip a classroom.

Scott Garman ~ PVIS

3D Scanning the Past and Future

The addition of a 3D scanner will allow students to capture the precise dimensions of a real object so that it can be recreated in the 3D computer modeling (or CAD) program. 3D computer modeling, 3D scanning and 3D printing all work together in additive fabrication technologies. The scanner will expand the applications and additive fabrication technologies being taught in our STEM classes and technology clubs and can be utilized in our STEM, Science and Social Studies Classes.

Scott Garman ~ PVIS

SCIO Spectrometer

Hand held spectrometers will allow students to determine the chemical composition of materials while teaching them about light. The spectrometer is one of the most widely used instruments in both field and lab based science. It measures the absorption and emission of various wavelengths of light. This will allow our students to do space age science, collecting the spectra of a sample and comparing it to the spectral database for identification.

Kurt Hay ~ PVIS

Interactive Classroom Presentation System

Interactive boards are used throughout the district to help math teachers deliver instruction and content in an innovative, meaningful way. The replacement and upgrade of an outdated board will work in conjunction with the already installed in-room projector and laptop.

Ana Jones ~ Miraleste Intermediate

Hands-on with the Human Body

Life-size felt mannequins allow for students to visualize the complex inner workings of the human body. Each set includes the 34" high manikin and 33 pre-cut pieces including seven diagrammed pieces, eight diseases and reproductive system. Student groups will have access to one mannequin during our 2 month unit on the human body. The set responsibly teaches health, exercise, anatomy and body functions.



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INTERMEDIATE SCHOOLS

Kerry Matulic ~ Miraleste Intermediate

Critical Encounters with Critical Thinking

High interest, nonfiction novels will be purchased to help facilitate literature circles and develop the ability to further comprehend complex text. Literature circles allow students an opportunity to engage in critical thinking and reflection as they read, discuss, and respond to books. This critical analysis of non-fiction selections will provide students an additional opportunity to engage in critical thinking.

Alison Seymour ~ Ridgecrest Intermediate

Classification of the *S. baylorensis* Fossil

A fossil replica, Seymouria baylorensis, and comparative animal skeletons will allow students to observe similarities and differences in their structures, then construct a phylogenetic tree and create a supported argument for their findings. The fossil and skeletons purchased for this lab align with several scientific practices including planning and carrying out investigations, analyzing/interpreting data, and constructing explanations.

Paul Woodward ~ Ridgecrest Intermediate

Robo 3D Printing

Robo 3D printer will allow students to incorporate “STEM” fundamentals of the engineering design process to create solid 3D models and prototypes from their 3D computer modeling (CAD) creations. 3D printers help to expand on the parameters of the “Project Lead the Way” STEM curriculum by bringing real-world experience to STEM learning.

HIGH SCHOOLS

Judy Adams-Smith ~ Peninsula High

"DNA Uncoiled": Constructing, manipulating, applying relationships, and conceptualizing DNA.

This hands-on lab allows Biology students to build their own DNA molecule, and then use their model to simulate replication, transcription and translation. Using the knowledge acquired from the karyotyping and DNA modeling labs, students will read and analyze investigation reports from two crimes. Students will then use photo-reproductions of electrophoresis gels to compare DNA fingerprints. They will analyze the evidence for a list of possible suspects, and attempt to solve the crimes.

Paula Borstel ~ Peninsula High

Anatomical Models

Detailed anatomical models are essential for the fundamental and comprehensive study of the human body and will be used in the identification of the parts of the human body and the structure and function of each. Models include: skin tissue for the integumentary system; the knee, shoulder joint and skeleton for the skeletal system; the human ear; kidney, diseased kidney and liver for the urinary system; the heart and lungs for the cardiopulmonary system and female pelvis and uterus for the reproductive system. Students will be allowed additional opportunities for a deeper understanding of the human body's structure and function.



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HIGH SCHOOLS

Paula Borstel ~ Peninsula High

Chemistry for You and Me

New science laboratory experiment materials will give students more opportunities for hands-on experiences in the chemistry classroom. Experiments and demonstrations excite student's curiosity and pique their interest in STEM careers. New materials will allow students to engage in activities including acid-base reactions, acid-base titration, as well as three kits that will introduce students to concepts such as solubility rules, oxidation-reduction and periodic trends, which are three core concepts in science.

Henry Chou ~ Peninsula High

Classroom Activity: Frequency and Pianos

"Frequency and Pianos" is a math activity designed to follow trigonometry concepts covered in PreCalculus. Each group of students will use a TI-84 graphing calculator, CBL2, microphone probe, and tuning fork. Students will gather all data by striking tuning fork and recording frequencies of sounds through microphone. The purpose of the activity is to introduce students to the graphs of different frequencies with different music notes and compare the frequency graphs with all trigonometric graphs in math. The goal of this activity is to broaden students' views of mathematics by integrating their interests in music and science to promote interest in math.

Barbara DeWitt ~ Peninsula High

Using Romeo and Juliet Graphic Novels to Improve Comprehension

Class set of *Romeo and Juliet* graphic novels that include the text and pictures by the author/illustrator Gareth Hinds. Graphic novels will be used to preview the story and review after reading Shakespeare's "Romeo and Juliet" to improve comprehension, enhance class discussions and improved test scores.

Barbara Ferraro ~ Palos Verdes High

Let's have FUN learning Spanish

Three separate sets of materials including board games, projects, songs, puzzles and other activities to enhance the Spanish language curriculum. These games and activities will appeal to students with different learning styles, including visual, auditory, and kinesthetic.

Betsy Fujinaga ~ Peninsula High

Skills for Independence (Special Education) and Service Learning Collaboration

Supplies for collaborative art, community service and cooking projects for the Student Learning Leadership (SLL) and Special Education Skills for Independence (SFI) classes. Collaborative projects reinforce both the SFI and SLL curriculums and incorporate service-based initiatives to benefit our school and local communities. These projects significantly influence the students in the SFI and SLL classes and also positively impact our greater school community by contributing to an overall feeling of warmth and inclusiveness on our campus.

Brendan Karg ~ Peninsula High

Industry Standard Stop Motion for Animation and Video Production

Grant will provide students in Digital Animation and Video Production classes with an industry standard setup for tabletop and flat stop motion animation. Being able to teach stop motion will broaden access to the worlds of animation and filmmaking by creating another avenue for student success. From the teacher's perspective, stop motion allows us to teach effective group work models, planning and scheduling, and other 21st century and career readiness skills. This will extend and enrich our curriculum and set the stage for work between STEM and Media Arts classes, accomplishing a primary goal of Common Core cross curricular real situation learning.



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HIGH SCHOOLS

Marie Kuhn ~ Palos Verdes High

Biotechnology Explorations: Can bacteria produce sea anemone proteins?

Biotechnology lab equipment will allow Biology Honors students to gain skills in proper use of equipment and research techniques used in this industry today, while working in teams and developing their problem-solving and critical thinking abilities. Students produce recombinant DNA plasmids containing a gene of interest, use those plasmids to transform bacteria, culture the bacteria in order to extract proteins, and then fractionate and purify to obtain the desired protein. The equipment also introduces students to a variety of biotechnology careers.

Anne Leonard ~ Peninsula High

AP Psychology

Video clip package and 3-D models of brains, ears and eyes will make learning more 3-D and active. The grant also involves test taking skill materials, including AP questions and vocabulary with definitions and application, which are important to help all our students find success in taking the AP exam.

Emily Mellquist ~ Peninsula High

Enhancing Student Learning in Algebra 2 with the TI Smart-View CE Emulator

The use of the TI-SmartView CE Emulator will enhance student learning and conceptualization of a wide variety of Algebra 2 topics. This software combined with the CE version of the calculator will allow me to “project an interactive representation of the calculator’s display to the entire class.” Each of my 180 Algebra 2 students will directly benefit from the emulator because of the versatile and flexible presentation methods that the emulator provides. It will assist them in more easily learning to use their own calculators as well as developing a greater depth of understanding of much of the Algebra 2 content.

Stephanie Peppermuller ~ Peninsula High

A Dissection Lab Series: Promoting Application of Knowledge and Critical Thought

Students will be dissecting marine worms, clams, squid, starfish, crayfish, dogfish sharks and perch. Dissection labs will engage students and help them to understand the relevance of material learned from the textbook, facilitating the connection of the text to “real life.” Participation in this dissection lab series will help students acquire and refine skills required to meet post-secondary education expectations. Throughout the dissection series an emphasis will be placed on collaboration and critical thinking.

Mike Spalding ~ Peninsula High

Centripetal Force Apparatus for AP & Regular Physics

Centripetal Force Apparatus allows students to collect incredibly clean data for an object in a circular path. Using the force sensor, they will accurately measure the centripetal force that keeps the object in its circular path. Using the photogate, they will simultaneously measure the object’s angular velocity. This data can then be analyzed in a multitude of ways such as graphing analysis, calculation based questions, and conceptual questions.

Michael Spalding ~ Peninsula High

Optics Kit For New AP Physics 2 Course and Regular Physics

Grant will provide physics students with quality equipment for experiments in optics (mirrors & lenses). The new AP Physics 2 course heavily emphasizes the interpreting of graphs. Students will be able to collect accurate object and image distances, graph these values and gain a concrete grasp of what their graph means. This hands-on approach is a powerful way to make this abstract topic far more tangible.