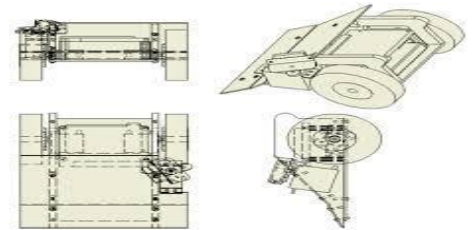


STEM...Science Technology Engineering and Math

Our departments continue to explore this topic for ourselves and how to participate in the STEM movement under the direction of our principal. Upcoming STEM events your student may want to discuss with their science teacher.

Medtronic: Biotech/Engineering Field trip for 9th & 10th graders with an interest in these or related career fields will be invited to join us in March when we tour the Santa Rosa facility.

Hewlett Packard: Career Presentations – January, periods 3 & 4 on campus in our SPARQ Science center or by teacher recommendation.



Department STEM Happenings

Robotics: The new Robotics Club will join forces with the new MESA class for a robotics SUMO competition in January. Students are learning engineering and design, as well as basic computer programming in the process.

Geospatial Program: GISII and III students are working with the Sonoma County Water Agency to monitor and create a stewardship plan for Peterson Creek. Ryan Pedrotti from the agency presented to second year students on December 3rd and will continue to be involved with our students throughout next semester.

Make I: We have just finished our large scale Balsa Gliders. Our students are creating some awesome examples of flight engineering. I will be posting some images on the blog very soon. www.pinermake.blogspot.com. Our next Project will be CO2 cars. Small scale CO2 powered vehicles that go 60mph. Tune in!!!

Project Make- Applied Physics- Year II: We are finishing up our trebuchets (catapults). They are awesome! Each trebuchet measures at about 15 feet high and launches a projectile 250+ feet. All are made from 2x4's and plywood. We look at physics concepts such as velocity, kinetic energy, projectile motion as well as acceleration. We will be posting on the blog soon.

The Chemistry of Spices: How preservatives work and which one is the best: An integrated curricular unit with Ms. Erickson (Chemistry) and Ms. Grove (Culinary)

Radiology and Ratios!: The mathematics behind Bone Density Scans. Mr. Kinser (Math) and Ms. Barcelon (Health Science) work together to study the use of bone mineral density scans and

careers in Radiology while learning the logarithmic background that creates the BMD doctors use to determine levels of osteoporosis.

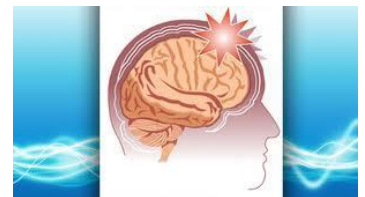
CAMEOS: Academic Biology students of Mr. Mantoani and Ms. Barcelon are working with UC Davis graduate students (Casey Peters... and Megan Mayo) to further their understanding of the Scientific Method. They have visited such rich ecological sites such as Bodega Marine Reserve and Armstrong Woods to learn how to use scientific tools and are in the midst of creating their own original research questions which lead to experimentation and a presentation at the May symposium!

First Light chemistry and physics students are currently teaching every other month at Schaefer Charter School, Piner-Olivet Elementary School and Bellevue Elementary School. Last month the elementary students participated in GIS Day and next month they will learn about polymers and make slime with our students.



In our new Science building, the SPARQ Center, we have been enjoying bringing Science and community together. We plan quarterly lectures followed by table talks where students, scientists, parents, and community folks interact and explore their scientific thinking. What could be a better spark for our own personal learning?

Our first talk was done by Julie Mangada from the Buck Institute on Stem cells and had an attendance of over 80 people. This week we hosted Dr. Lin an Immunologist from SSU who gave us a great overview of the Immune System - the how and why vaccines work. We have two more events we want to make sure you save the date. *Please check the PHS website (www.pinerhigh.com) closer to the date for final confirmations. Events start at 7 pm.



February 6th Thursday: Concussions – the Ultimate Cranial controversy (tentative presenter Dr. Ty Affleck)

April 10th Thursday: The Maker Movement – Putting the next generation in Motion! (tentative speaker Dale Dougherty)

Campus Wide Health Fair: Many teachers have been involved in the planning of our integrated Health unit that kicks off in January! Here is a sampling of the projects:

Physical Ed: nutritional analysis, measure BMI in students

Social Science: History of sugar, its impact on colonization

English: Annotation and analysis of primary research articles on negative impact of glucose on nervous system and development.

Biology: Rethink the drink - investigation of the sugar content of popular drinks

Special Ed: Restorative Justice, personal, social, and mental health

Culinary: Healthy cooking demonstrations and recipes

Economics: Analysis of cost of un-healthy society and other student selected projects

HSB: Evaluation of fad diets, health effects of mal-nutrition, diabetes simulation and more!

We plan a culminating Fair to present projects, bring in key note speakers and have community health vendors set up to help educate our students. We are still working on a final date. Our Piner High Cal-HOSA hopes to kick off this event.



The Live Healthy Sonoma County 10 Week Wellness Challenge

St. Joseph Health has teamed up with **Live Healthy America** to provide a turn-key, budget neutral wellness challenge to encourage colleagues to get more active in 2014!

Using a fun, team-based approach, the **Live Healthy Sonoma County 10 Week Challenge** encourages colleagues to make positive choices toward living a happier, healthier life!

Colleagues form teams of 2-10 people, get a LHSC workout shirt, the ability to track their physical activity online, utilize calorie trackers, workout video's, recipes and other great wellness resources.

Friends of the SPARQ Center: This parent led non-profit group has just started with the creation of by-laws and vision statements for the Center. If you are interested in joining or contributing in some way please contact Kurt Kruger on campus kruger@srcs.k12.ca.us or Rui Gregorino whoster@comcast.net