

**Contact: Sue Michaels/Diane Wright**  
**Sierra College Marketing/Public Relations**  
**916-660-7272, (fax) 916-630-4535**  
[smichaels@sierracollege.edu](mailto:smichaels@sierracollege.edu) or [mfolsom@sierracollege.edu](mailto:mfolsom@sierracollege.edu)

## **Catapult Launches Students' Interests in Product Development**

ROCKLIN – Del Oro High School students in Loomis may never have considered how products such as phones, sun glasses and cars are designed, produced and sold. After building the Tech-Explorer catapults, developed by Sierra College through grant funding, freshman in the Tech Essentials class discovered new skills and explored careers in design and product development.

Daniel Gayaldo, Principal, Del Oro High School says that the school has benefited from the Sierra College STEM Collaborative ([www.sierraschoolworks.com](http://www.sierraschoolworks.com)). Through the partnership with Sierra College, teachers had professional development opportunities, consulted with college faculty and went on externships at manufacturers. In addition, the grant provided classroom equipment similar to what is used in industry and projects like the Tech-Explorer catapult. “The grant provided by Sierra College through the Sierra STEM Collaborative has opened up an exciting new world of hands-on experiences to our students,” said Gayaldo.

Freshmen are enthusiastic about the applied academics catapult project that included using mills, lathes and hydraulic presses according to Tom Stargaard who teaches Tech Essentials at Del Oro. “For students who have never made something from scratch or used industrial tools, it is a very empowering experience,” said Stargaard. “After completing the catapults, students’ evaluations were very positive.” Del Oro students reported:

*“I had fun getting to work hands-on with the tools and materials. I like the amount of trust we had to do it ourselves.”*

*“I liked learning how to use new tools and creating something that worked.”*

*“I enjoyed getting to build a project by myself.”*

*“My favorite part was finishing it and watching it in action.”*

Sierra College’s goal is to interest high school students in Science, Technology, Engineering and Math (STEM) education and careers explained Carol-Pepper-Kittredge, Sierra College CACT director, who administers the program. “The applied learning experience exposes students to product development careers,” said Pepper-Kittredge. “If students discover an interest in manufacturing, they may want to study Mechatronics, Engineering, Welding, Energy Technology and Drafting Engineering Support at Sierra College and learn more at <http://www.sierracollege.edu/programs/cte/programs.html>. Local employers are actively recruiting from these programs,” said Pepper-Kittredge.

Students apply math and measurement skills to produce metal parts of the catapult using hand and power tools. Then they assemble the catapults and compete against each other to see whose

ball goes the greatest distance and is the most accurate. To learn more, go to [www.tech-explorer.com](http://www.tech-explorer.com).

The National Science Foundation and California Community College Chancellor's Office awarded grants to Sierra College to create a pipeline of students from middle school to high school to college interested in and prepared to fill the need for skilled technical employees. For information, go to [www.sierraschoolworks.com](http://www.sierraschoolworks.com) or contact Carol Pepper-Kittredge, director, Center for Applied Competitive Technologies, Sierra College, at [cpepper-kittredge@sierracollege.edu](mailto:cpepper-kittredge@sierracollege.edu) or (916) 660-7517.

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