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Robert Mastriano, 10, tests a robotic submarine during the recent Kids on Campus program at the University of Hawaii at Manoa. The objective was to build a submarine that had neutral buoyancy and to program it to move from side to side and up and down.



Science alliance

The Kids on Campus program has students use Legos to learn about technology and math

By Nalea J. Ko June 16, 2008
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Ten-year-old Robert Mastriano says he is glad he made it this month into the first Kids on Campus science camp at the University of Hawaii.

The home-schooled student tinkered recently with his orange fluorescent winged Lego submarine. One day, he writes in his log, "I would like to build a robot that could take the place of soldiers."

The competition for a spot was stiff. Mastriano was among the 100 admitted to the science camp on a first-come, first-served basis, with many more middle-schoolers turned away.

With a registration fee of \$25 per student, the camp drew hundreds of applications, says Kari Nettel, an

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education specialist with the Hawaii Center for Advanced Communications, a sponsoring organization. Even her own children did not make the cut, she says with a laugh.

The Hawaii chapter of the Student Teacher Outreach Mentorship Program provided the mentors for the exploratory science program.

Assisted by one to three STOMP mentors, the children learn about science, technology, engineering and mathematics by working in small groups to build mechanical cars, boats and submarines using Lego MindStorm kits.

Each session culminates with students programming and testing their Lego creations. Program organizers and mentors say they hope the children return home with not just a free camp T-shirt, but also a piqued interest in science.

"There are a lot of good teachers out there, and a good teacher can educate but the really great teachers inspire," said UH-Manoa graduate student Justin Henneman, 22, who has worked in other states using STOMP's techniques. "The concepts they learn are very much reinforced that it's their solution. They're creating the solution. They're finding the answers."



About 99 percent of the camp's participants are from public schools.

Andrew Zimmerman, 12, says he hopes to use his technical savvy in a career as a film director.

"I am doing this to save money on the effects," he says.

For now he is concentrating on adjusting the gears on his Lego vehicle to make it go uphill.

Helping Andrew with his vehicle was UH-Manoa doctoral candidate Ryan Smith.

"I think it's very important to expose children (to science) at an early age so they know the opportunities and options they have available to them," says the STOMP mentor. "Mathematics, science, technology is something that everyone uses every day whether they believe it or not."

Kaleo Iwasaki, program manager with the Partners in Development Foundation, a co-sponsor, says hands-on exploratory science programs are important, especially in schools with high Hawaiian populations.

"There is a need in the Hawaiian community because Hawaiian students score so low in math and science," he said. As a result of the success of this month's Kids on Campus program, another weeklong camp might be created in July. Education specialist Nettel says she hopes it will expand to include all students statewide.

In total, \$30,000 was needed for the two-week camps, says Nettel.