



Elementary Engineering: Keepers Camp Sparks Inquiry In Young Scientists

Camp For Second Through Fifth Graders Runs July 16-20 In Barrington

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July 11, 2007

Editors, reporters, photographers: To schedule a visit to KEEPERS, contact Barbara Hopkins, UNH Leitzel Center, at 603-862-0718

DURHAM, N.H. – Going fast, falling hard, building gizmos and launching rockets ... elementary school-age children are natural engineers. KEEPERS (Kids Eager for Engineering Program with Elementary Research-based Science), a week-long camp program, aims to harness those engineering inclinations with activities for science inquiry and design skills taught by University of New Hampshire faculty and graduate students. Run by the University of New Hampshire's Leitzel Center for Mathematics, Science, and Engineering Education, KEEPERS meets at Barrington Elementary School July 16 – 20.

This year's KEEPERS brings together 20 children from throughout the Seacoast region. Faculty include associate dean of engineering Robert Henry (civil engineering); associate professor of mechanical engineering Brad Kinsey; professor Ihab Farag and assistant professor Niva Gupta, both of chemical engineering; professor of electrical engineering John LaCourse; and professor of environmental engineering Robin Collins.

Daily activities include challenges to gauge students' background knowledge, designing experiments and measuring to gather information and optimize results, and team efforts to make decisions and build devices that apply their knowledge to new applications. Each day presents different engineering adventures in electrical, civil, chemical, environmental, and mechanical engineering. Students work with household materials and recyclable junk so that they can continue to improve upon their designs at home.

Past KEEPERS students have loved the adventures presented by modern engineering problems and projects. They experience the joy of problem-solving and learn to persist with coaching from faculty, UNH students, and local teachers. "Engineering is fun," past students have commented. Parents commented that "the students continue to experiment and build when they return home...so that the learning and excitement continues!"

Program developer Barbara Hopkins has worked with teachers in a variety of levels (elementary, middle, and high school) to run the KEEPERS Camp. Teachers have found the curriculum and activities applicable at all levels and enjoyed the experience of working with young engineers. Students use science and mathematics concepts and strategize next steps from successes and failures. "The joyous celebration of success is truly meaningful when students have to struggle with concepts," says Hopkins. "The KEEPERS kids really learn

together, struggle together, and learn the value of teamwork in meeting engineering challenges.”

The KEEPERS program is easily transportable to other communities. Interested parents or teachers should contact the Leitzel Center (603-862-0718) for more information.

