

# Help is on the way

**S**hannon Hudson and her son Tyler, 15, give PRISM (Portal Resources for Indiana Science and Math) two thumbs up as a digital learning tool that makes science and math relevant and fun. When Hudson—a science teacher at Tuttle Middle School in Crawfordsville—trains colleagues in using PRISM, she emphasizes that the online library is free, easy to navigate and contains more than 2,300 resources for classroom use. “It’s wonderful because PRISM offers lesson plans and Web sites that have been evaluated by educators and have direct links to Indiana’s academic standards,” she says.

As a student, Tyler likes the connections that PRISM makes between textbook lessons and real-world situations. For example, when he was a student at Tuttle, his math teacher created a unit called “How Much Does This Car Really Cost?” The teacher invited a car dealer to class to explain the business side of vehicle sales, and then she used PRISM to find information on how to calculate simple and compound interest. “It helped students realize that the advertised deals may not be as good as they seem,” says Hudson.

With support from Lilly Endowment, PRISM was developed five years ago at Rose-Hulman Institute of Technology.

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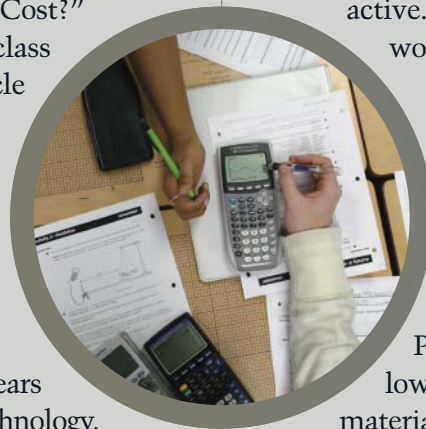
**Bill Reed, mathematics teacher at Hamilton** Southeastern High School in Fishers, stops by to answer questions from Karlee Hepp (*front*) and Brittany Barnes. At the time his class was doing two labs at one time. Both labs used the Texas Instruments Sonic Ranger connected to graphing calculators. Reed is an enthusiastic cheerleader for PRISM and the Homework Hotline, both based at Rose-Hulman Institute of Technology in Terre Haute.

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The motivation was twofold. First, middle-school teachers were eager to integrate computer technology into their classrooms but had little time to explore and evaluate the many digital resources. Second, research indicated that students responded favorably to the interactive, graphic nature of online learning tools.

“We felt we could be the mediator to help teachers find and use age-appropriate resources,” explains Patricia Carlson, professor of new media at Rose-Hulman, facilitator of the West Central regional hub of I-STEM and director of PRISM. “We think there is a strong indication that students who learn skills in information technology are better able to go into the workforce and use the advanced tools that are readily available there. They enjoy learning the concepts because it’s very interactive. It’s better than traditional board work or worksheets.”



Although PRISM is designed for use in middle-school math and science classes, it also has application at other grade levels. Bill Reed, who teaches algebra and calculus at Hamilton Southeastern High School in Fishers, modifies PRISM materials for some of his lower-achieving students. “I use the material as a starting point to get them up to where they need to be,” he says. Diedre Adams, a science and math teacher at West Vigo Middle School in Terre Haute, has introduced PRISM to special-education teachers at her school. “The students love the graphics,” she says. “They often can manipulate the keyboard more easily than they can use pens and pencils.”



### Just ask Rose

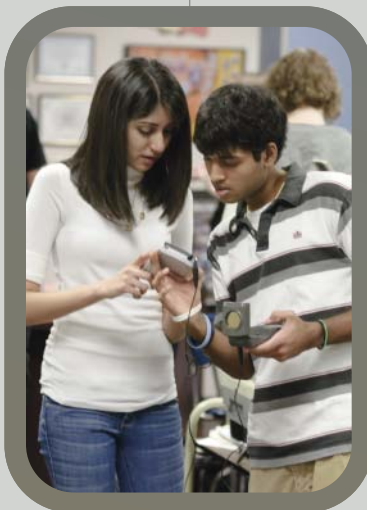
#### Hudson, Reed and Adams enthusiastically

endorse another Rose-Hulman service, Homework Hotline. For 17 years Indiana youth in grades 6-12 have asked Rose-Hulman students for after-hours help with science, engineering and math problems. The Hotline, supported by more than \$8 million in Endowment grants since 1999, continues to expand its reach and its impact.

During 2008 a record 44,151 callers from throughout the state contacted Rose, bringing the service's cumulative response statistic to more than 250,000. Of the 110 trained student tutors, at least 30 are available to field questions during each evening shift, 7 p.m. to 10 p.m., Sunday through Thursday.

"This year we have a new system," says Susan Smith, founder and director of the Hotline. "Students can call Homework Hotline (877-ASK-ROSE), e-mail us ([www.AskRose.org](http://www.AskRose.org)), or chat online with a tutor. These options help us accommodate different learning styles. The telephone works well for auditory learners; the online chat is great for visual learners."

Beneficiaries of the Hotline service aren't just the teenagers struggling with tough algebra or physics



**Susan Smith** (*top left*) is the founder and director of Homework Hotline. In 2008 Rose-Hulman students helped more than 44,000 callers figure out their math, engineering and science problems. The Endowment has supported the project since 1999. Patricia Carlson (*top right*), professor of new media and PRISM director, sees the need for resources to connect the classroom teacher quickly to reliable information. Bill Reed's students—Gauri Wagle (*above left*) and Nikhil Kulkarni—confer on a lab problem.

assignments. Smith says the student tutors tell her that the work improves their own skills in critical thinking, problem solving and communication. "After they graduate, many of our tutors help youth wherever they're living. They see there's a real need."

### One-stop shopping

#### Among the positive aspects of the I-STEM

Resource Network is its capacity to link users to key Web sites such as PRISM, Homework Hotline and smartDESKTOP. The last was developed with the help of more than \$5 million in Endowment support to the Learning Cooperative, an affiliate of the Indiana Humanities Council.

After successfully piloting it, the Learning Cooperative transferred in late 2007 the operations of the smartDESKTOP to the Indiana Department of Education, which has incorporated the program into its educational technology resources.

A suite of smart tools delivered over the Internet, smartDESKTOP has a user base of about 14,500, with new teachers comprising its largest group. Teachers at all grade levels can use these tools to help them plan instruction, manage curriculum, measure student learning, and collaborate with other professionals.

"I began using smartDESKTOP when our school was piloting the program in 2005," says Sherry

Butcher, a first-grade teacher at North Daviess Elementary School in Elnora. "I use it mainly for lesson planning, although I've browsed Web sites in the resource section to find activities pertaining to certain standards or lessons we're discussing."

Different versions of smartDESKTOP are geared to teachers, schools and districts, and parents and students. Overseers expect usage to accelerate and observe that having a central location at the Department of Education is helpful.

"One of our big goals is to highlight existing resources, not to reinvent the wheel," assures Sorge, director of operations for the network. "We want to make sure that teachers, schools, districts, parents and students know about the spokes of the wheel so they can determine the resources they will find most beneficial."