Recognizing the critical need to boost math and science test scores, the Los Angeles Unified School District has taken several steps — including offering bonuses — to attract and keep teachers in those fields at the district's neediest schools.

The move, which took effect this month, comes at a time when the consequences of students falling behind their peers in an increasingly globalized economy are being widely acknowledged.

With about 6.5 million students in its schools, California faces a daunting challenge to increase their math and science skills. Only 18% of eighth-graders tested at or above proficiency in science and 22% tested at or above proficiency in math, according to the 2005 National Assessment of Educational Progress.

But rather than allow test scores to dip even lower, in California, as in other states, educators, policymakers and private corporations are taking action.

From boosting training programs at universities and community colleges to creating incentives to recruit and retain teachers, education officials and industry leaders hope teachers will help students catch up before it is too late.

At Los Angeles Unified, the solution is three-pronged. New teachers who are fully credentialed in math or science and teachers in those fields who transfer to low-performing schools will be awarded a $5,000 recruitment bonus.

Teachers will be eligible to work at more than 150 schools districtwide that ranked low on the Academic Performance Index, a statewide measure of growth and performance.

To encourage qualified math and science teachers to remain in those jobs, the district will give one-time $5,000 bonuses to those who stay for three years, through the 2008-09 school year.

In addition, a handful of high schools will have a staff member available to support new teachers, said Dan Isaacs, chief operating officer at the district. "The purpose is teacher retention, to get teachers the kind of support they need on issues such as classroom management," Isaacs said. "That way the school becomes their school."

The incentive package also includes money to encourage teachers to obtain credentials. The district will offer up to $5,000 in reimbursement for education. The incentives also apply to special education teachers, another area of need.

The initiatives were a result of an unusual deal between the school district and its teachers union, United Teachers Los Angeles.

"The union recognized that there is a critical shortage" in these fields, said Tom Killeen, executive officer of human resources for the district. "This is a far-reaching agreement."
The initiative is funded by an $11.2-million, three-year state grant, Killeen said.

District and union officials said they thought the bonuses would be a significant draw for both new and veteran teachers to join the school district.

"Every district is fighting to find ways to get math, science and special education teachers to stay," Isaacs said.

Educators also want to snag science and math majors before they are lured away by private industry.

"We're doing our best to get the very best and brightest in these fields to consider education as a career," Isaacs said.

Retention has long been an issue at Los Angeles Unified and one that the teachers union hopes to boost with the new incentives, said A.J. Duffy, union president.

"Not a lot of people want to come to this district," Duffy said. "Although the pay is all right to begin with ... it's not a good salary when you top out. We're always interested in doing what we can do to strengthen the profession."

The Los Angeles district is not alone in its quest for math and science teachers. In New York City, for example, the school district announced an incentive program that will offer math, science and education teachers housing subsidies of nearly $15,000 over two years to teach in some of the district's most challenging schools.

Even so, education experts stress that it's not all about money.

Although offering attractive salaries is important, newer teachers often seek support and guidance from veterans, so providing that might be more important, said Margaret Gaston, executive director for the Center for Teaching and Learning, a Santa Cruz-based nonprofit that focuses on education.

For Jessica Pickus, 23, who will begin teaching seventh-grade science this fall at Belvedere Middle School in Los Angeles, her combined interest in science and education led her to become a teacher.

Pickus is completing her second year in the UCLA Teacher Education Program, which allows students to work toward both a master's of education degree and a single- or multiple-subject credential. The incentive sounds appealing, but even more of a draw is the fact that she probably will be in demand as a science teacher.

"I knew in terms of finding a job, that when it came down to it," Pickus said, "I would be sought out more than English or history teachers."

In addition to such education programs as the one at UCLA, the University of California system has undertaken a large-scale effort to encourage math and science students to consider teaching as a profession.

During the last school year, the UC system launched California Teach, an initiative sponsored by Gov. Arnold Schwarzenegger and private industry to urge math and science students to consider teaching as a career, said Lynda Goff, director of California Teach and a biology professor at UC Santa Cruz.

"The UC system produces about 5,000 biology students a year, and while a number of these kids
go into graduate school, 50% don't go into the biological sciences," Goff said. "But nobody had ever talked to them about teaching; it's crazy."

Boeing, Adobe Systems Inc. and Amylin Pharmaceuticals Inc., among several program sponsors, pay for UC students to assist in elementary, middle and high schools throughout their academic careers and set them on a path to becoming full-time teachers.

At UCLA, more than 60 students enrolled in the program's courses, said Kelly J. Worden, academic coordinator for UCLA's California Teach. Students going through the UCLA program assist teachers at schools within Los Angeles Unified.

Although James Beach, 20, has always enjoyed teaching, the California Teach program at UCLA has given him an even better sense of what the profession is like through real classroom experiences. Beach, a junior, is thinking of teaching biology at a public high school in his hometown of San Diego.

At UCLA, Beach has come across many science majors who thought their only option was to go into medicine, but he is hopeful that things are starting to change.

"A lot of it is the prestige and the paycheck; that's what their parents want them to do," Beach said, referring to students considering medical school. "But there are students that are thinking a lot like myself.

"What other job do you get summers off and help kids grow?"