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Math, science get \$7M upgrades

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Ariana Padilla studies a mock rock, crafted from various minerals, under a magnifying glass at her Washington Park School science class in Totowa. Educators say sciences offer keys to the future.

North Jersey students will benefit from nearly \$7 million in grants aimed at improving math and science education, officials from Montclair State University announced Tuesday.

Education advocates have long noted a looming crisis in math and science education: New Jersey and the nation suffer from persistent teacher shortages in those subjects, even as current and future jobs require more technological know-how than ever before. Yet three out of four fourth-grade math and science teachers have no special training in those subjects, according to the federal education department.

Improving math and science education is "one of the vital issues facing our state and our nation," state Education Commissioner Lucille Davy said Tuesday. Recent high-school reform efforts have focused on high-level math and science training as a way to make graduates more successful in their adult lives.

The three new programs are designed to modernize teacher training, encourage math and science majors to pursue teaching jobs and bring university researchers into local public school classrooms.

The Grants: Following are three grants awarded to Montclair State University to help improve math and science instruction in the state's elementary, middle, and high schools.

Elementary school: Elementary Creative University School Partnerships

The grant: \$2.4 million state grant for three years.

Who will benefit: About 10,000 students in 26 school districts, including Alpine, Bergenfield, Englewood Cliffs, Hillsdale, Leonia, Little Ferry, Lodi, Lyndhurst, River Edge, Rutherford, Teaneck, Totowa, Wayne and West Paterson.

The program: Gives expert training by math and science researchers at Montclair State to teachers. Teachers attend a two-week summer workshop in math and science education at Montclair State and special workshops throughout the year, and university researchers visit classrooms to ensure that lessons are up to date.

Reaction: "Hopefully this will help them implement a hands-on approach," said Principal John Vanderberg of Washington Park School in Totowa, where three teachers will participate.

Middle school: National Science Foundation's Graduate Teaching Fellows in K-12 Education

The grant: \$2.8 million federal grant for five years.

Who will benefit: About 3,500 students in Rutherford, East Rutherford, Kearny, North Arlington and Lyndhurst.

The program: Brings Montclair graduate students into classrooms to act as resident scientists and mathematicians. Eight graduate students a year will each be assigned a class, where they will include cutting-edge research and introduce hands-on lessons to benefit students who are learning to speak English.

Reaction: "Science needs to be tangible," said Cathleen Dale, a master's degree candidate in geosciences.

High School: Prudential Teaching Fellows

The grant: \$1.6 million for three years, from the foundation of Prudential Financial.

Who will benefit: About 13,000 students in Newark.

The program: Montclair State will recruit and mentor 15 math and science majors each year to become teachers in the Newark public schools.

The students will receive free tuition and special training as they complete a two-year master's degree, in exchange for a three-year commitment to work in Newark.

Reaction: "We hope that the outcome of this program will be a compelling model for promoting teacher quality and improving retention rates," said Ada Beth Cutler, dean of Montclair State's College of Education and Human Services.

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