



Creative University-School Partnerships (CUSP)

East Orange	Park Ridge
Englewood Cliffs	Passaic Valley RHS
Franklin Lakes	Ridgefield
Hackensack	Rutherford
Hillsdale	Saddle River
Leonia	Teaneck
Little Falls	Totowa
Lodi	Wayne
Lyndhurst	West Orange
Montclair	West Paterson
Orange	MSU

CUSP is a partnership of a research and teaching university (MSU) with a diverse group of school districts in Bergen, Essex, and Passaic counties. CUSP is a comprehensive project that addresses educational needs using research-based pedagogies.

CUSP Project Activities

- Summer Institute
- Distance Learning
- Content-based workshops
- Videoconferencing
- Adopt-a-professor
- Math & Science courses
- Assistance in achieving HQT status in math and science
- Classroom visiting teams

EVENTS AND IMPORTANT DATES

PRISM Summer Institutes -

Mathematics and Science, MSU, August 15-26, 8:30 a.m.- 1:30 p.m., 40 PD hrs. for 10 days participation.

Location: The Bristol-Myers Squibb Center for Science Teaching and Learning, Blanton Hall, next to Lot 17.

Deadline to enroll: July 31, 2005

Contact PRISM at 973-655-7753 or e-mail us at prism@mail.montclair.edu to register.

CUSP DISTRICTS TOUT IMPROVED MATHEMATICS SCORES

The mathematics outreach team is excited about student test results. During the first year of the CUSP program, the team coached and mentored teachers both individually and in workshops to strengthen instructional strategies and inquiry-based learning challenges. Teachers welcomed the intense work of the outreach team, and students' scores on state tests and the Terra Nova rose dramatically. District administrators join teachers and CUSP staff in lauding the professional development achievements in those districts with ethnic and low-income students whose scores showed substantial increases.

Another outreach team objective was to focus on the special needs of teachers seeking highly qualified status, and significant progress was made toward reaching that NCLB goal. Congratulations are extended to all team members and teachers who worked so hard to improve mathematics education for our students.

PRISM SUMMER INSTITUTES '05

PRISM will host a Summer Math and Science Institute from August 15-26, 2005. Appropriate for teachers who need to become highly qualified to teach middle school math or science, this 10-day program will be held Monday-Friday from 8:30 am to 1:30 pm. CUSP project teachers will be paid a \$500.00 stipend for 10 full days of attendance and receive 40 PD hours. Lunch is available free of charge, and vouchers will be provided for parking in the Red Hawk Deck. Sessions will be held on the Montclair State Campus in Richardson Hall, Science Hall, and the Bristol-Myers Squibb Center for Science Teaching and Learning in Blanton Hall. The only off-site session will be held at the Sterling Hill Mining Museum in Ogdensburg, NJ. This institute is offered by PRISM and supported by the NJDOE through the CUSP project program. Registration is free to PRISM partner schools. The cost to non partners is \$800.00 for the 10-day program. To register: call the PRISM office at 973-655-7753 or log onto prism@mail.montclair.edu. Space and stipends are limited, so early registration is encouraged.

MATHEMATICS, grades 5 - 9 (CCCS 4.3, 4.5)

August 15 - 26

Teaching Algebra for Understanding

Nancy Schultz and Danielle Nix

Help your students understand and retain mathematics concepts through engagement in active explorations. This institute is ten days of algebra through focused modeling of topics. Standards-based teaching practices will be used throughout all lessons. Lessons will be taken from such sources as the Navigations© series from NCTM, as well as standards-based programs at the middle school level. Examine sequencing of lessons and concepts development to avoid the pitfalls of "activity-mania."

SCIENCE, grades 5 -9 WEEK 1

Teaching Standard-Based Science

(CCCS 5.1, 5.4, 5.5, 5.7, 5.8)

PRISM Staff

August 15 & 16

This foundation course is for participants new to PRISM's summer institutes. Activities will emphasize how people learn through constructivist and inquiry-based teaching and learning methods. Content will include some difficult-to-teach topics in life, earth, and physical science. Transformation of a traditional hands-on lesson into an inquiry-based investigation will be modeled and practiced.

Microscopes and Small Worlds

(CCCS 5.1, 5.4, 5.5)

Dr. Ann Marie DiLorenzo

August 15 & 16

Examine the uses and techniques of microscopic investigations, working with both simple and inexpensive equipment, and more sophisticated options. Acquire the skills to help students become comfortable and adept at working with microscopes. Learn the basics of purchase and care of equipment. Explore lessons for use in critical thinking, open-ended questioning and discussions with students.

Earth & Space Science Concepts for Investigation

(CCCS 5.1, 5.3, 5.8, 5.9, 5.10)

Dr. M. L. West & PRISM Staff

August 17 - 19

Learn about geological concepts and the latest investigations about Mars that help us understand the history of our own planet. The JASON Expedition curriculum packet on Mars will be provided to each participant who wishes to join the interactive programming that will be available through the coming school year.

Life Science Topics in Heredity and Genes

(CCCS 5.1, 5.4, 5.5)

Dr. Ann Marie DiLorenzo

August 17 - 19

Examine concepts in the study of how traits are passed from one generation to the next. Refresh your understanding of genetics and DNA, while learning forensic science techniques that engage students. Explore concepts through hands-on investigations, and the use of ethical issues in

SCIENCE, grades 5 -9 WEEK 2

Life Science Topics for Investigation

(CCCS 5.1, 5.5)

PRISM Staff

August 22 - 24

Examine concepts in the study of biomes, ecosystems, food webs, energy transfers, biodiversity, nutrient cycling, and adaptations. Explore distance learning and videoconferencing with scientists at research facilities through the Rainforest Connection. Learn how to engage students in hands-on, inquiry-based explorations on their outdoor school sites. The JASON Expedition curriculum packet on Rainforests will be provided to each participant who wishes to join the interactive programming that will be available through the coming school year.

Chemistry Concepts and Methods for Teachers

(CCCS 4.2 D, 5.1, 5.4, 5.6)

PRISM Staff

August 22 - 24

Measurement, solutions and dilution, and chemical testing are major areas where students need special assistance. Learn how to teach basic chemistry concepts safely and effectively using hands-on investigations. Refresh yourself in some important chemistry concepts as well as the latest classroom safety information.

Physical Science Concepts for Investigation

(CCCS 5.1, 5.3, 5.4, 5.7)

PRISM Staff

August 25 & 26

The concepts to be taught in energy and motion will be explored through the standards-based STC curriculum materials of the National Science Resources Center. Participants will focus on how to engage students in investigations that improve their learning and retention of physical science principles.

Geology with a Geologist

(CCCS 5.1, 5.6, 5.8)

Dr. Earl Verbeek

August 25 & 26

Learn about minerals, the properties of matter, and mining in New Jersey at the Sterling Hill Institute for Geology in Ogdensburg, NJ. Includes field experiences in mine and rock collecting in the Rock Discovery Center.

CUSP Staff

PRISM Office:

Jacalyn Willis, Ph.D., Dir.
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OUTREACH TEAM

MATHEMATICS

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SCIENCE

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ADOPT-A-PROFESSOR

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CUSP

Creative University-School Partnerships
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On the CUSP is a vehicle for sharing program plans and events. Your contribution to **On the CUSP** is important to us. Share your school's successes! Items received by the 10th of the month will be included in the next month's issue, based upon space availability. Submissions should be identified by the district, school, principal, teacher(s), and date of event.

Send submissions to: PRISM@mail.montclair.edu

Have
a safe and
enjoyable
summer!

Thumbnail Sketch of Our Partnership Year

The CUSP project achieved its 1st year goals between September 2004 and May 30, 2005. 570 contacts (large group, small group, and individualized) were completed with 420 teachers in grades 5-9 in mathematics and science. These professional development experiences included monthly meetings of CUSP partners, 90 inservice sessions in CUSP school districts, 339 on-site classroom visits to observe, demonstrate, and reinforce exemplary teaching practices, 73 workshops, two online hybrid courses (one course on ecology; the other on geology), and 7 mathematics courses on campus. Two summer institutes over a 4-week period were held in 2004, prior to the grant award, but served as a foundation for the CUSP program.

Appropriate university course offerings were established with tuition charges reduced by more than 50% for CUSP teachers. Discounted tuition rates for spring 2005 mathematics and science courses were arranged for teachers who enrolled to satisfy the New Jersey House Matrix and become highly qualified. Teachers received a reduced tuition rate of \$500 for 3 credits and \$750 for 4 credits for fall and spring semester courses.

Teachers were afforded the convenience of distance learning programs in both online and videoconference formats. Dr. Jacalyn Willis, PRISM staff, and Science Specialists taught 33 science lessons live from the rainforest in Panama through 2-way videoconferencing to 96 middle grades classes in New Jersey, New York, and Texas over a 5-day period.

Summer 2005 courses for middle grades teachers of science and mathematics were designed to meet New Jersey House Standards. MSU professors have accepted contracts to teach these courses, and schedules have been set to include a variety of instructional formats including classroom, field experiences, and electronic sessions.

CUSP Application for YEAR – 2 Funding

Application for continuation of the CUSP program has been prepared by Dr. Jacalyn Willis and PRISM staff, and submitted to the NJDOE. The application includes a request for adequate funds to provide professional development for 500 teachers. Within this population services will focus on the immediate needs of 50 teachers seeking HQT status. Outreach teams of mathematics and science specialists, and MSU professors who are adopted by school districts, will continue to deliver onsite mentoring, teaching demonstrations, and workshops. Meetings at the PRISM office in the Bristol-Myers Squibb Center for Science Teaching and Learning will continue to bring information, training, and resource distribution to partner districts.

CUSP will continue to implement its goal of fostering “cutting-edge collaborations to improve science and mathematics teaching and learning.”