

**Equity Studies
Research
Center**

Sisters In Science:

**A Newsletter Promoting Gender Equity
in the Science Classroom**

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EQUITY
REFORM PROJECT
(SISERP)**

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Sisters in Science Equity Reform Project

by: Victoria Dell'Era

The Sisters in Science Equity Reform Project (SISERP) was founded in the interest of providing equitable avenues for all students to pursue academic success in science, mathematics, technology, and engineering. Recently awarded the American Association of Colleges for Teacher Education Best Practice award for gender equity, the SISERP focuses on programs designed to raise the interest of females in science courses.

Incorporated into the five components of SISERP is a comprehensive science and

mathematics curriculum based on the national standards. All elements of SISERP are easily aligned with individual school district standards. In addition, SISERP has been designed to accommodate the learning styles and life experiences of all students. The success of the SISERP curriculum has been the development of its gender-equitable and inclusive foci.

The Sisters in Science Equity Reform Project (SISERP) addresses the need for urban girls in elementary, middle and high school to gain equitable access to science and mathe-

tics education. Specifically, this need is based on the rising research-based public concern over the diversity gap in science, mathematics, and technology.

SISERP offers six innovative science programs designed to foster gender equity and inclusion in science, technology, engineering, and mathematics (STEM) education; Sisters in Science (SIS), All Sisters in Science (ASIS), Sisters in Sports Science (SISS), Sisters in Science in the Community (SISCOM), INFO-Sisters in Science Career (cont'd pg 2)



Sisters in Science: An Elementary Science Program for Girls

by: Penny Hammrich

Female students' academic achievement in and perceptions and attitudes of mathematics and science are subjects that have received considerable attention from the Educational research community for

more than two decades. Systemic efforts have also been made to reverse the negative attitudes girls have about science and mathematics.

The **Sisters in Science (SIS)**

addresses the needs of urban girls in gaining equitable access to science, technology, engineering, and mathematics (STEM) education. Through science explorations developed to promote (cont'd pg 2)



Sisters in Science Equity Reform Project

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Opportunities Matter, and Sisters in Science Dissemination and Outreach Project (SISDO). SIS-ERP recognizes the significant impact intervention programs targeting girls of disadvantaged socioeconomic status can have on academic success. In every respect, SISERP accepts the call for systematic reforms that understand the limitations girls face in postsecondary education and employment opportunities in these

“The success of the SISERP curriculum has been the development of its gender equitable and inclusive foci”

fields. Funded by the National Science Foundation, for nearly ten years, SISERP programs focus on the diversity inherent in learning through various tools by which scientific and mathematical principles can be explored, analyzed, and communicated. By employing multiple vehicles to engage their interests, girls are encouraged to become researchers and to explore the

underlying principles. Rather than relying on teachers as the primary transmitters of information, the girls gather expertise and information from several sources and disciplines. Like everyone, girls are confronted with problems and questions inside and outside of the structured classroom. What they may not be aware of is that tools such as sports and technology can open the door for scientific exploration and create a network of resources from which to gather information either as primary sources or as a supplemental source.

The Sisters in Science Dissemination and Outreach Project

By:
Anika Riley

In response to the disproportionate number of women in science-based fields, the Sisters in Science Dissemination and Outreach Project (SISDO) was developed. The program uses training and partnerships with various organizations as a means to equity in the classroom. Developed as a clearinghouse for gender equity in science education, the program seeks to impart teachers,

pre-service teachers and the general public with information promoting the “best practices” in a movement towards gender-equitable science education. The program is founded on data collected through the Sisters in Science Equity Reform Project.

The methods of dissemination and outreach are designed to reach a wide

and varied audience. Program dissemination falls into three distinct categories; publications, educational programming and technology.

Each quarter the Sisters in Science Newsletter is published. The newsletter is authored by teachers as a practical guide to gender equity in science education. Bi-annually, (cont'd pg 3)

Sisters in Science: An Elementary Science Program for Girls

(cont'd from pg 1)

gender equity in STEM disciplines, elementary school girls are challenged to in achieve STEM disciplines in a non-competitive and collaborative atmosphere. SIS is the first program developed under the SISERP umbrella. The SIS program is a multifaceted educational intervention aimed at increasing

young urban girls' interest and achievement in the sciences. Program components include an in-school program, an after school program, teacher training, family education and summer camp.

The SIS program provides fourth grade girls with cooperative interdependent

science exploration. The rationale is that when girls are allowed to work in a manner intrinsic to their collective learning style science, technology, engineering and mathematics (STEM) learning will occur. The program focuses on the reformation of girls' perceptions of science education and (cont'd pg 3)

Sisters in Science Equity Reform Project: 2005 AACTE Gender Equity Award Winner

by: Anika Riley

Queens College of the City University of New York recently received the American Association of Colleges for Teachers Education's (AACTE) Gender Equity Award in Women's Leadership for the Sisters in Science Equity Reform Project (SISERP). When asked about the award, the Queens College/ CUNY President James L. Muyskens is quoted as saying, "To help young girls overcome the many obstacles in their way so that they may reach their potential in the sciences is a worthwhile undertaking. But, to do this in the inner city is indeed a noble endeavor."

The award sponsored by the AACTE's Committee on Women's Issues, recognizes exemplary accomplishment in

"To help young girls overcome the many obstacles in their way so that they may reach their potential in the sciences is a worthwhile undertaking..."

programs and innovations related to gender equity in education. SISERP serves as a model for others in the field of education. More importantly, the SISERP program has been recognized

for "best practices" in advancing the agenda for women and girls in science education.

Founded with the intent of providing access for females into the science, technology, engineering, and mathematics pipeline, the program has positively impacted over 10,000 urban girls enrolled in underserved schools and 1,000 undergraduate and graduate education, science, and kinesiology students.

The award was presented at the AACTE's 57th Annual Meeting.

Sisters in Science Dissemination and Outreach Project (cont'd from 2)

The Microscope is published as a means to circulate the newest research on gender equity and science education.

In collaboration with the Queens College/ CUNY Division of Education, the Division of Mathematics and Natural Sciences, NYC Department of Education Region 5,

The following is a listing of up-coming SISDO events:

May 3, 17 & 24, 2005– New York City Region5 teachers' workshop: Gender in the K-8 classroom

August 15 & 16, 2005– The Sisters in Science Summer Institute

November 18, 2005– The Sisters in

Science: What Works Conference.

Additionally, the SISDO program seeks to publish works in the Sisters in Science Newsletter and the Microscope. Interested parties should contact the Equity Studies Research Center at (718) 997-5227.

Sisters in Science Equity Reform Project (cont'd from pg. 2)

SISERP concentrates on the need for females to gain access to quality science education by utilizing a variety of approaches to foster equity in science education. Specifically, this need is based on the rising public concern over the gender gap in science education; recognition of the significant impact

intervention programs have on school success and the call for systemic reforms that recognize the obstacles minority females face in the academic and professional science arena.



science as a career option via reflective discussion as well as hands-on experience with science, technology, and mathematics.



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EQUITY STUDIES RESEARCH CENTER

Equity in Education for All!

www.sistersinscience.org



Sisters in Science: Family Sample Lesson

by: Penny Hammrich

We eat food everyday. Food contains different nutrients necessary for us to maintain healthy bodies.

Objectives:

- Students will collect data
- Students will make observations
- Students will learn to identify nutrients in common foods

Fat Test

Materials:

Brown bags or brown paper
4 plastic sandwich bags that zip closed
Peanuts
Cookies

Apple sauce
Margarine
Spoons
1 bowl
Warm water

Procedure

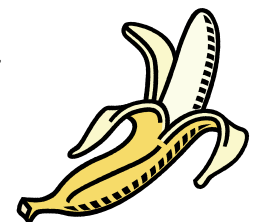
1. Place a spoonful of each food into a separate bag and seal the bag
2. Place each bag in a bowl of warm water for 1 minute
3. After removing the bag from the water, spoon a small portion of the food onto a piece of brown paper

4. Place another piece of brown paper over the food and apply pressure
5. Note the consistency of the spot that results

Journal

Question

Name ingredients and or nutrients found in different foods.



Founded in the summer of 2004, the Equity Studies Research Center has been developed to The Equity Studies Research Center (ESRC) at Queens College of the City University of New York promotes interdisciplinary scholarship including basic and applied research and serve as a vehicle for community engagement facilitating the advancement and study of equity in urban education and socio-economic participation. The ESRC provides a focal point for intellectual exchange, collaboration, and coordination of resources necessary for achieving both theoretical understandings of equity processes and the effective design and implementation of practical interventions advancing equity.

Currently, the ESRC houses the Sisters in Science Equity Reform Project (SISERP). The project is comprised of six science programs focused on broadening the participation of urban girls in science related courses. The following SISERP programs are intended to reach underserved females in numerous capacities:

Sisters in Science, All Sisters in Science, Sisters in Sports Science, Information-Sisters in Science Career Opportunities Matter, Sisters in Science in the Community, and Sisters in Science Dissemination and Outreach Project.