



# Friends of Detectives

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Science Education Partnership Award

Winter 2003

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## Field Test Is Underway

*Detectives in the Classroom* is now being field-tested in Paterson, New Jersey.

Pre-tests were administered from November 2002 through January 2003 to 7th grade science students at nineteen middle schools, 8th grade science students at one middle school, and high school students in two classes at the HARP Academy. When the pre-test and post-test results are compared, we will be able to study the impact of the Detectives on students' fundamental abilities in scientific inquiry, scientific literacy, attitudes toward science, and knowledge of epidemiology.

We would like to give a special thanks to the following teachers, their principals, and their students for participating in this essential aspect of the Detectives project.

<u>Schools</u>	<u>Teachers</u>
3	Shirely Glaubach
4	Lucy Mankovich
5	Marg Scillieri
6	Vernon Hawes
7	Rosa Kopic
7	Debra Falek
8	Dorothy Kelder
9	Lynn Tarant
10	Larry Hurtado
11	Meg Turco
12	Mary McClam
13	Charles Ferrer
15	Alan Ruz
18	Dorothy Yilmaz
21	Donna Kerwien
24	Veva Tronci
26	Linda Benson
27	Carmine Pindilli
Performing Arts Academy	Mary Bertino
Build Academy	Mohamed Khairullah
HARP Academy	Paul Healy
HARP Academy	John Super

Data from the pre-tests are being processed and the Detectives curriculum has been initiated in a number of schools. Post-testing will take place in May 2003.

## Field Testing Team Meeting

The first meeting of the *Detectives* Field Testing Team occurred on October 24, 2002 at the Paterson Public Library. The 10 team members who are teaching *Detectives* are: Lynn Tarant, School 9, Lucy Mankovich, School 4, John Harper and Paul Healy, HARP Academy, Mary McClam, School 12, Vera Tronci, School 24, Debra Falek, School 7, Rosa Kopic, School 7, Donna Kerwien, School 21, and Vernon Hawes, School 6.



*Field Testing Team Training gets started. (Clockwise from Left) Donna Kerwien, School 21, Frank Botti, Cluster 1 Science Resource Teacher, Lucy Mankovich, School 4, Madeline Roman (hidden), Wayne Fisher, Teaneck Health Department, John Super, HARP Academy, Veva Tronci, School 24, and Debra Falek, School 7*



*(Left to Right) Mary Mc Clam, School 12, Debra Falek, School 7, and Veva Tronci, School 24 tell a story with their concept map.*

At the October meeting, everyone reviewed the six investigations that comprise Module 1 and teach students to answer our first Essential Question, “Why are some people getting sick while

others are remaining healthy?” When students learn to answer this question, they will have developed our first Enduring Understanding, “Clues for formulating hypotheses can be found by describing the way a disease is distributed in a population of people, in terms of person, place, and time.”

During lunch the Field Testing Team heard a presentation by guest speaker, Wayne Fisher, the health officer for the Teaneck Health Department and a *Detectives* Advisory Board member. He discussed how he and his department, in conjunction with other health departments in northern New Jersey, “solved” the case of what caused an outbreak of Shigellosis in several communities. The process he and his colleagues worked through to “solve” the case was similar to what students will learn by working through the *Detectives* curriculum.



*(Left to Right) Paul Healy, HARP Academy, Rosa Kopic, School 7, and Vernon Hawes, School (Left to Right) Paul Healy, HARP Academy, Rosa Kopic, School 7, and Vernon Hawes, School*



*Wayne Fisher, Health Officer for the Teaneck Health Department and Detectives Advisory Board member, discussed “The Role of Descriptive Epidemiology in Discovering the Cause of a Shigellosis Outbreak.”*

## Website Update

Susan Amirian, Education Technology Consultant and Web Master, has our *Detectives in the Classroom* website up and running. The investigations for modules 1, 2, and 3 are accessible in PowerPoint, Word, and PDF formats.

The web site is a work in progress, but there is much to explore. The investigations (under **Curriculum**) are available to view, as well as pictures from the Field Testing Team meeting (under **Development Team**), investigation evaluation instruments (under **Project Evaluation**), and articles about *Detectives* (under **Presentation**). The website address for *Detectives in the Classroom* is [www.montclair.edu/detectives](http://www.montclair.edu/detectives).



*Susan Amirian, Education Technology Consultant and Web Master*

## November Teachers Convention Presentation

A sunny, cloudless blue sky and unseasonably warm weather greeted convention goers on November 7, 2002, the first day of the New Jersey Teachers Convention in Atlantic City. Lynn Tarant, Tim Purnell, and Mark Kaelin presented a 1½-hour workshop on *Detectives in the Classroom*, to an audience of science, health, and mathematics teachers from across the state. Tim presented investigation 1-1, “Why Are These Students Getting Sick?” in which selected participants, with a certain characteristic in common, such as sitting near the door or wearing something red, were given “DZ” signs representing the spread of a fictitious disease. Then all the participants observed how “DZ” was distributed and developed hypotheses about possible “causes” for that “DZ” distribution.

Lynn presented investigation 1-3, “What’s My Hypothesis?” in which each participant was assigned an exposure (cell phones, MTV, or computers) and wrote a description of how a disease would be distributed in terms of person, place, and time, if that exposure caused a disease. Participants then reviewed each other’s descriptions and formulated one or more

hypotheses for each. When participants compared their hypotheses, they realized that for a given distribution of a health-related outcome, there can be several different educated guesses.

Mark presented a variation of investigation 2-4, "Backpacks and Back Pain," that explores the possible association between carrying heavy backpacks and back pain. Because participants did not have backpacks with them, they explored the association between their hours of sleep and coffee consumption during the past 24 hours. The hypothesis, "Fewer than eight hours of sleep causes increased coffee consumption," was tested. Participants placed themselves in the appropriate cell of a 2x2 table and calculated the risks and relative risk. The outcome of the investigation uncovered the limitation of the cross-sectional study design, time order cannot be established. In other words, were the people who drank coffee less likely to get a good night's sleep or could it be that people who had not had a good night's sleep were more likely to drink coffee? As this was a morning workshop, the majority of workshop participants had had their daily coffee and were wide-awake.

*Detectives in the Classroom*  
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