

Teachers Give Summer Programs A⁺

by Ellen Webster

As a result of the recently concluded Summer Teachers' Institute, about 900 area students will be affected by what their teachers learned. Add to that their high school counterparts in the Teacher Research Associate Program, and the number rises to nearly 1,500.

The six-week Teacher Research Associate Program is enabling eight high school teachers to apprentice with Laboratory scientists and engineers. The Summer Teachers' Institute brought sixth, seventh, and eighth grade middle-school teachers to the Laboratory for two weeks of workshops and projects to help them show students the relevance of science in their lives.

If you talk to teachers involved in the programs, it's easy to see that PPPL's attempt to work more closely with educators has been a success for both the teachers and employees.

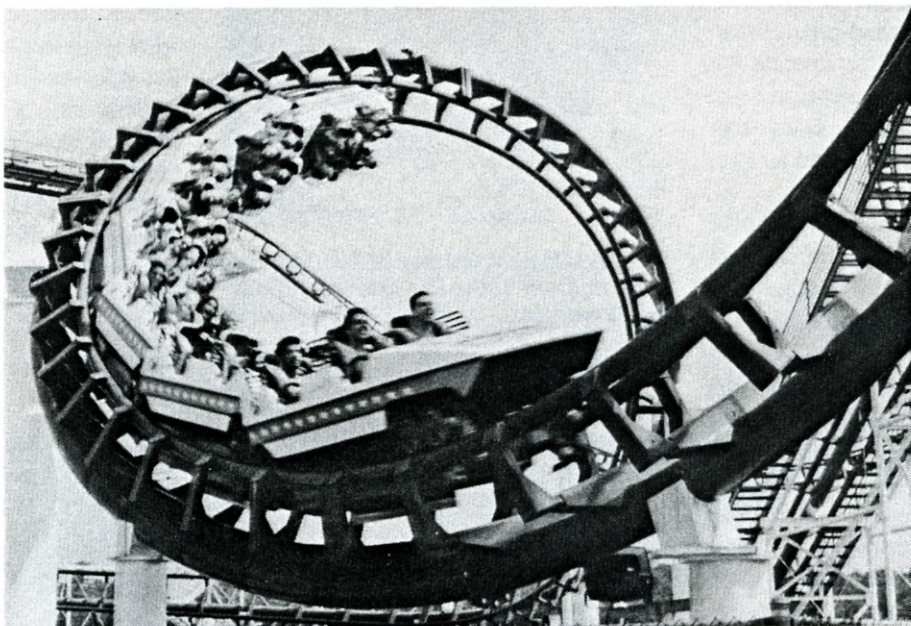
Kay Widmer, who teaches field ecology and chemistry at Hopewell Valley High School, said she was surprised by the reaction employees had to her presence here — their interest in what she does as a teacher. "These [education] programs are

Other teachers have spoken about the friendliness they experienced. "One of the best parts for me," said Lynda Fonde, a science teacher in Trenton, "was the attitude of the people we encountered."

Discussing ways the program will help in the classroom, Liz Welch of St. Mary's Cathedral Grammar School in Trenton, said that the Summer Teachers' Institute has given her "concrete, hands-on exercises to entice my students to explore." To her, though, the human resources were most valuable. "Talking to colleagues has been very comforting," she said. As a direct result of the program, the middle-school teachers are setting up an informal networking group to trade ideas and resources.

Teachers also spoke about ideas they had before coming to PPPL. "We're used to hearing that universities don't care," said Welch, "and it's good to see that they

Continued on page 2



Teachers spent a day at Great Adventure learning about the physics of motion. Did you know that 3⁺ Gs (three times the normal force of gravity) can be felt on the Scream Machine? (More pictures in What's Happening.)

Photo: ELLEN WEBSTER

definitely two-way exchanges," she said.

Likewise, employees have said that they are pleased to see so many educators curious about the work being done at the Lab.

Quick Action Minimizes Water Damage

by Ellen Webster

Employees who have been driving past the guard gate each morning for years say it was a first — being required to stop and pick up a notice, that is. As a result of the June 24 water leak on the third floor of the RF building, an information bulletin explaining the situation was distributed to all employees as they arrived at work.

Without warning, thousands of gallons

of water had spilled and subsequently caused delays to experiments and some equipment damage in the area. Primarily affected were diagnostic and experimental equipment for the X-Ray Laser Lab, PBX-M, TFTR RF and the Radio-Frequency Test Facility.

J.W. Anderson, Manager of the Emergency Preparedness Division, said that fast thinking and quick actions of the Emer-

gency Services Unit and security personnel helped minimize damages. Captains Bob Brown and Gregg Tompkins were on duty that day. They were supported by a team which included Tom Brophy, Lloyd Mathis, Tom Ruffin, Bert Allen, and Tom Furman.

"The men should be credited," said Anderson, "for taking action to isolate the

Continued on page 2

Leak — continued from page 1

leak and responding quickly to the alarms which were received by water affecting electrical circuits. The response by everyone, including support from Plant Maintenance, AC Power, Tech Shop and Safety personnel, was excellent."

Anderson said that many experiments housed in the RF building require cooling water which has been drawn from the fire protection system's supply for this purpose, and it was in this part of the system that the accident occurred.

On Monday, June 25, a recovery program was in place to clean up the damages and check all equipment. The fire system in the RF building was subsequently replaced by a temporary stand-pipe device, fire fighters were trained to operate the new system, and the experiments were once again up and running. Long-term actions include a proposed sprinkler system for the RF building.

Anderson pointed out that "we all play a role in preventing this type of incident from recurring. The water line that failed had evidently been leaking for some time, however it was not identified to Plant Maintenance for repair. It is important that we all be aware of the conditions in our work areas and identify such leaks to the Plant Maintenance group for correction."

Improvements lab-wide will help eliminate a potential problem which was uncovered during the leak investigation, that of silt build-up within the piping system. Routine inspections of the piping will be conducted, and, where necessary, pipes will be flushed to remove accumulated sediment. ▲

Education — continued from page 1

do. This experience has made me feel there's some real true compassion in research, that they do care about children."

Other realizations have brought personal surprises. Marcia Ruhl, a high school mathematics teacher in Hightstown, found problem-solving in a research environment to be an eye-opener. "I never realized how structured my life is," she said. "One day my level of frustration was so high that I went home and did laundry so I could feel like I'd accomplished something!"

Similar comments about the unpredictability of research were echoed by

other high school teachers. Kay Widmer said that she had no idea what was involved in the real process of research. "This is not what the students' impressions of research is," she said. "Textbooks teach them that situations are more ideal." She said that as a result of working at the Lab this summer, she'll be better prepared to help guide students' career directions.



Inez Prioleau, a teacher in Trenton, was a participant in the the Summer Teachers' Institute. Photo: ELLEN WEBSTER

Some middle-school teachers said the real benefits of this sort of program will not be clear to them until they have time to sort out the information and prepare to use it in the classroom. "I do know that its made me very aware that physics is everywhere," said Lynda Fonde.



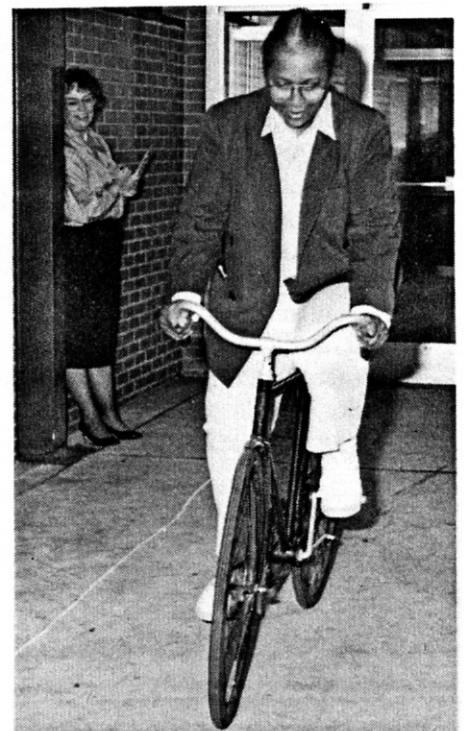
Educators included Barbara Weiland from the Newark School District, and Scott Hobson, a teacher in Monmouth.

Photo: ELLEN WEBSTER

Yvette Van Hise, the Lab's education consultant who teaches physics at Marlboro High School, helped design and coordinate the Summer Teachers' Insti-

tute. She said that for the most part the participants came from elementary education backgrounds and have little or no experience in teaching physics concepts. She gave as an example of this one teacher who has taught home economics for 21 years and was recently assigned to science. "You'll find, in general," she said, "that middle-school teachers are probably weakest in the sciences. Many have never taken a physics class so they're uncomfortable with the subject. That's why having this program at PPPL is 100% better than offering it in a school; here they're able to see science in a place where its a day-to-day activity."

Barbara Weiland, a 21-year veteran teacher from Newark says she plans to put what she's learned here to work by taking the open-ended problems she poses to students and "seeing how much physics I can stuff into them." She says her role as a teacher is to be a facilitator, to provide materials and challenges. This year's program has given her ideas for more ways to use play in the classroom. "Creative play is really the basis of all learning," she said. "Discovery puts the process and production into the hands and mind of the child."



Evelyn Harris, from Trenton, tried hands-on experiments related to the physics of motion. Photo: JOHN PEOPLES

A Celebration of Service

On the Job for 35 Years

by Ellen Webster

At the eager age of 27, George Depagnier applied for his first job at Princeton University. On another part of the campus, Bob Kneeshaw was beginning a new career making models for the then Aero Department. And over in the remote part of campus now known as A-Site, Russell Kulsrud was anxious to start his first job out of college on a secret project called Matterhorn.

For all three, these beginnings have led to 35 years of personal growth and involvement with the Princeton Plasma Physics Laboratory.

These gentlemen, along with other employees who have marked their 5, 10, 15, 20, 25, and 30 year anniversaries with the Lab, were honored for their service on July 11. The celebration was hosted by Personnel Head, Steve Iverson. Presentations were made by the Laboratory's Acting Director, Tip Brolin.

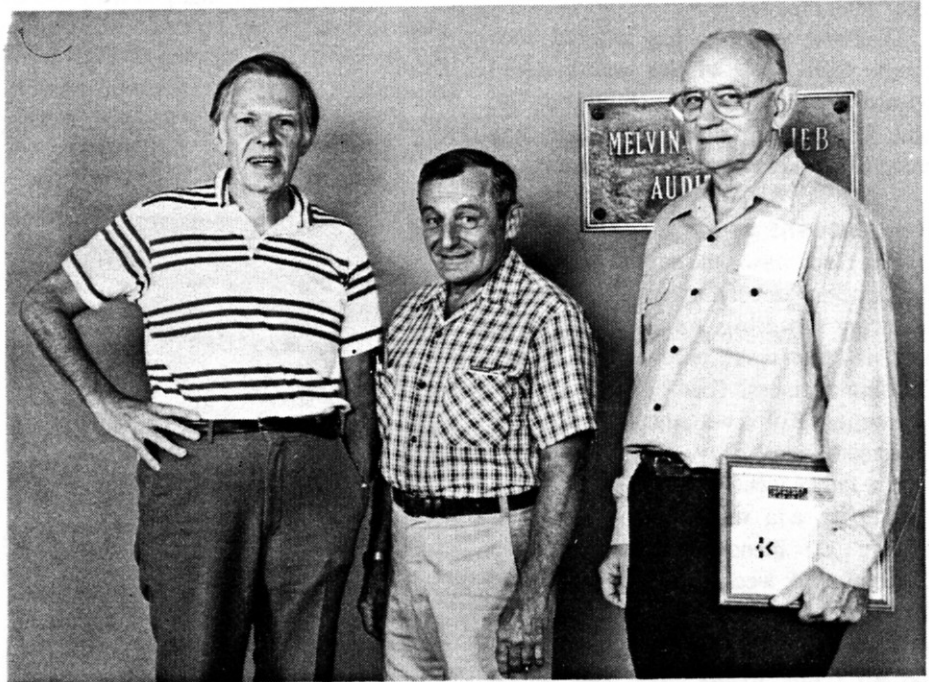
The jobs of Kneeshaw, Depagnier and Kulsrud have been very different, but all agree on one point — the decision to come to Princeton was a good one.

Russell Kulsrud

As a young physics student in Chicago, Russell Kulsrud didn't know anything about a job he'd heard about at Princeton, except that it involved plasma physics. He was assured by his professor that it would be interesting, so he traveled to New Jersey to speak with Lyman Spitzer.

Because of its secrecy, he did not find out what Project Matterhorn entailed, but on the basis of what Spitzer was able to tell him, he knew he wanted to get involved. He didn't, however, leave that meeting encouraged about the prospects of a job. "Lyman said that the project was almost finished and they didn't really need any more theory . . . and that was in 1954!" he said.

But a job offer did follow, so he moved to Princeton to work on the theory of fusion — something he has been doing ever since. Kulsrud said that back then the project's 40 employees and one administrator were housed in a round tin building



Russell Kulsrud, Bob Kneeshaw, and George Depagnier share a 35-year involvement with PPPL and Princeton University.

Photo: JOHN PEOPLES

[still standing and for many years used as the printing facility]. Since that time a lot has changed. "I think the draw to stay this long is because it keeps changing," he said.

While he's had offers to work elsewhere, the temptations haven't held his interest for long. Over the years there have been sabbaticals to places such as Paris; Cambridge, England; Denmark; Berkeley, California; and Japan, but for permanency, he's always preferred Princeton. "This is a good place because there are smart people and that makes it exciting," he said. "This is the top place in the world for plasma physics."

George Depagnier

At the end of World War II, George Depagnier, who can be found working from 11 p.m. to 8 a.m. at TFTR, decided to take advantage of a veteran's benefit. He left the service and went back to school where he earned his aircraft mechanics license, a decision, he said, that became "a very important part of my life."

He immediately put his new skills to use by serving in the New Jersey Air

Guard during the Korean War and then going back into active duty for the Air Force for two years. After his discharge, he checked the local papers for jobs and found that Princeton University was hiring aircraft mechanics. Since that was right up his alley, he applied, was accepted, and has found himself happily working on a vari-

"Years go by faster than we expect. You find out that common sense is a big thing in life."

— Bob Kneeshaw

ety of projects at PU and PPPL for more than three and a half decades.

He said that while there may be an employee or two who have been here longer, he believes that he has the second lowest badge number actively used at the Lab, that of #15.

"I've spent most of my life here, and that [loyalty to a company] might be a

Continued on page 4

Service — continued from page 3

passing fad," he said. "I think it'll be rare in the future to go into a job as a young man and leave as an old man. We may be the last of a dying breed."

Over the years he has worked with people from most of the industrialized countries of the world. "I've found out," he said, "that people, no matter where they come from, have a universal humanity."

Bob Kneeshaw

Bob Kneeshaw, who spends most of his time working out of the tech shop, grew up in Ewing Township. As a young man he and his father were partners in a home-building business. Then Bob was drafted and went to Korea with the Army Corp of Engineers.

His father went to work for Princeton University and told his son about an strange phenomenon of this new job — a five-day work week! When Bob returned from the service, he took his father's advice and began working at Princeton. But the seven-day weeks crept back up on them, this time in the form of week-end remodeling jobs at the end of their five-day weeks. Bob finally decided that he had to make a decision about which career he truly preferred. He chose Princeton and said, "I'm pleased that I did it. It's turned out to be a good decision."

He said his time here has been very much like growing up with a family.

"Years go by faster than we expect," he said. "People age and grow up. You find out that common sense is a big thing in life."

When asked how many more years he plans to be at the job, he replied, "If I knew the answer to that question, I'd be sitting alongside God. It probably won't be another 35 years though. I'd like to go fishing before that." ▲



Twenty years at the job: Joseph Winston, Ed Hill (front); Muriel Strohl (center); Pat Murray, Joe Rushinski, and John Schmidt (back). Photo: JOHN PEOPLES



Honored for 30 years of service: Wolfgang Stodiek, Paul McCann, Henry Miller, Silas Snead, and William Derry.

Photo: JOHN PEOPLES

TRANSITIONS

RETIREMENTS

Richard E. Shamon retired July 1 after 33 years of service. He was Technical Specialist, Quality Assurance, in Technical Operations.

Joseph C. Wood retired July 1 after 31 years of service. He was a supervisor in the Coil Shop in Technical Operations.

BIRTHS

A daughter, Andrea Da-Chen, was born to **Bill Tang** (of the Theory Division) and his wife Mary on July 12.

A daughter, Lisa Marie, was born to **Frank Wasiowicz, Jr.** (in Materiel Control) and his wife Kathy on July 16.

A son, Christopher, was born to **Dolores** (of the Director's Office) and **Matt Lawson** (in Property Administration) on July 20.

A daughter, Michelle, was born to **Ron Strykowski** (of Project Management and Scheduling) and his wife Kathy.

MARRIAGES

John Luckie (in Materiel Control) and **Kathleen O'Callaghan** were married on April 28.

HOTLINE

Editor:	Carol Phillips
Writer & Layout:	Ellen Webster
Photography:	John Peoples
Reproduction:	Teri Daynorowicz
	Dan Klinger

Our best ideas for **HOTLINE** come from you. If you have a story idea, Transition news, What's Happening announcement, or photo ideas, call Carol Phillips at ext. 2754.

What's Happening at PPPL?

PEOPLE

Don Grove, a retiree of PPPL, was recently acknowledged for his contributions to the field of fusion with the Fusion Power Associates' Distinguished Career Award. Other PPPL recipients so honored include Melvin B. Gottlieb and Lyman Spitzer, Jr

Please note: For the next few months when you contact the Director's Office, you will reach **Jeanne Salerno** who is temporarily assigned to the office while Dolores Lawson is on maternity leave.

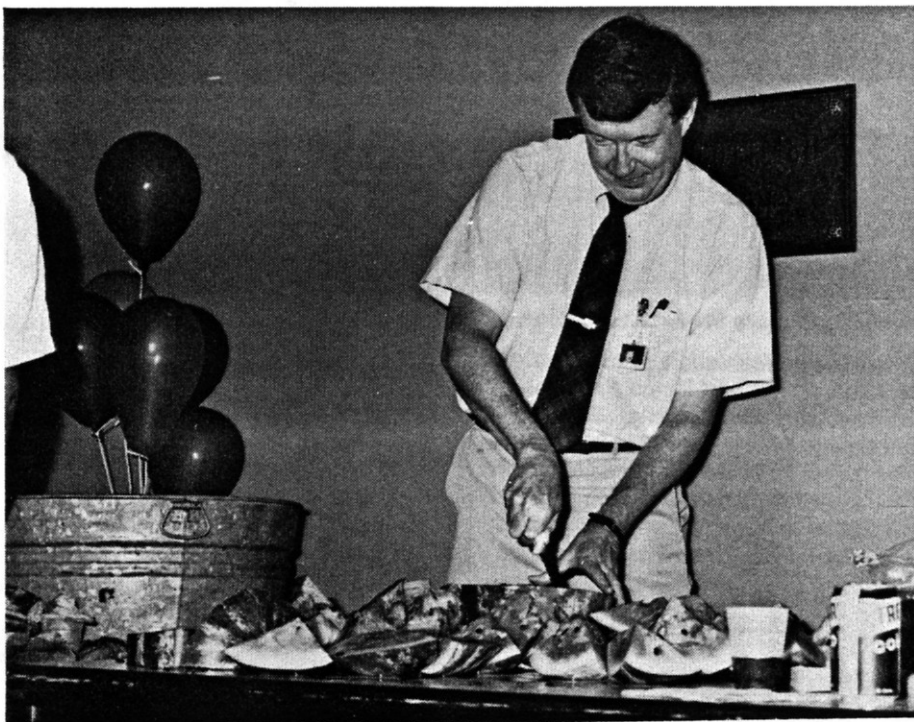
ANNOUNCEMENTS

Have Some Spare Time for Bowling?

PPPL's Mixed Bowling League will begin its 32-week season on September 5. Both full-time and substitute members are needed. The League bowls at Colonial Lanes on Wednesdays at 6:15 p.m. Call Dick Yager, ext. 3307, or Sarah Thomas, ext. 3711, for more information.

Something Borrowed . . .

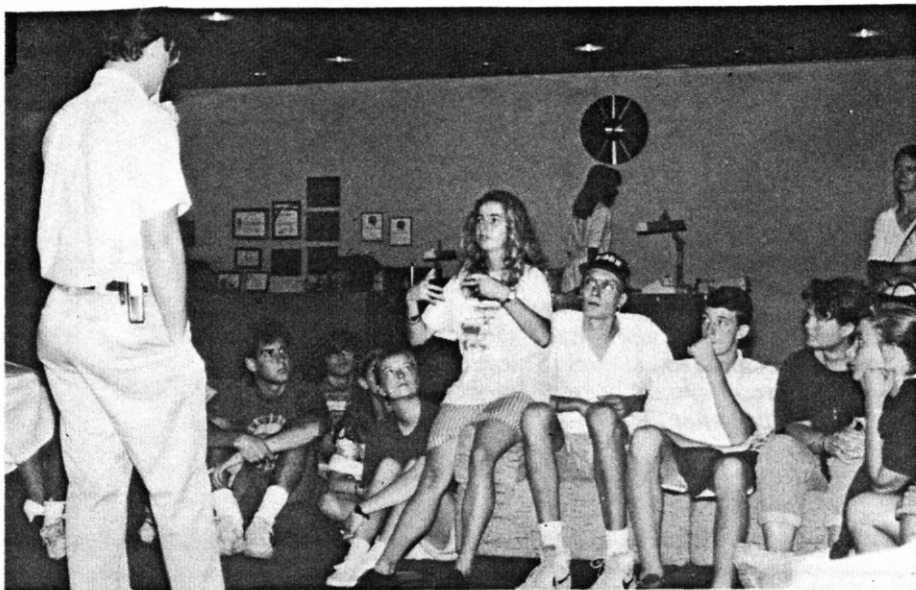
Attention professional women. A local organization, Working Wardrobe, needs your help. Women in crisis or transition can often use a helping hand with appearances. By donating items you no longer need — suits, dresses, blouses, jackets, shoes, slips and camisoles, scarves, belts and jewelry — you can help women overcome a big hurdle in any job situation — the first impression. For more information, call Pat Naylor at 258-2825.



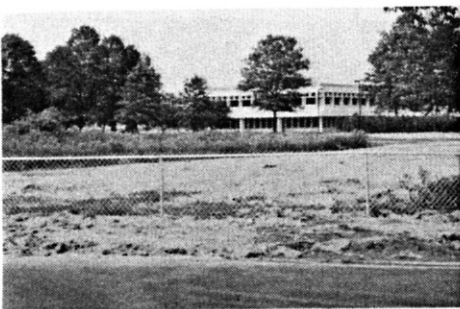
John Schmidt, Head of the Compact Ignition Tokamak Project (CIT), cuts watermelon at the recent Lab-wide celebration recognizing the new CIT mission statement. During the activities, Acting Laboratory Director Tip Brolin announced that the Senate Energy Appropriations Subcommittee approved the full funding requested by the President for the US Magnetic Fusion Program. Photo: MIKE DIONNE



Acting Director Tip Brolin recently visited Rep. Robert Roe (D-NJ) in Washington and presented him with a picture of TFTR in appreciation for his support of the magnetic fusion program.



Physicist Paul LaMarche talks with American Field Service (AFS) students prior to taking them on tour of the Laboratory. The students, representing 18 countries, were on their way home after living a year in California and Alaska with American families. Bill Johnson, Personnel Department, hosted two students during their week-long stopover in Lawrenceville. Photo: ELLEN WEBSTER



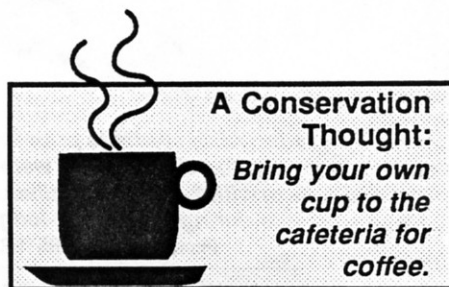
Wondering Where the Road Has Gone?

During the construction of the Route 1 overpass, the Robert Wood Foundation received permission from Princeton University to access their facility through a specially cut path from PPPL's entrance road. Relocation of their entrance has now been completed, so the temporary road has been removed.

Photo: ELLEN WEBSTER



Mary Ann Brown is President of the Mercer Chapter of Professional Secretaries International and is currently attending the organization's international convention in Salt Lake City, Utah. Secretaries interested in learning more about this group should contact Mary Ann at ext. 3045 after July 30.



A Conservation Thought:
Bring your own cup to the cafeteria for coffee.

Field Trip to Great Adventure



Tracy Carr and Violet Cox of the Trenton School District measured the angle of a ride in order to calculate its height.

Photo: ELLEN WEBSTER



The day was videotaped by Yvette Van Hise, a Marlboro High School physics teacher, who helped PPPL's develop this year's Summer Teachers' Institute.

Photo: ELLEN WEBSTER

Barbara Wolff, who teaches physics at Livingston High School, led the day in the park, as she does for groups around the country. Teachers learned about physics of amusement park rides and ways to adapt this information for classroom use.



Inez Prioleau (left), Earl Kim (back), and Violet Cox (right) calculate the forces that are felt on rides with Barbara Wolff (center), the day's "Varsity Physics Coach."

Photo: ELLEN WEBSTER



Gail Robinson, Dorothy Jones, and Bob Zelley — teachers in the Trenton School District.

Photo: ELLEN WEBSTER



Scott Hobson, Liz Welch, Inez Prioleau, and Dorothy Jones test the physics principle which predicts that all riders will swing at the same angle. (The angle is only dependent on the speed and radius of the ride.)

Photo: ELLEN WEBSTER

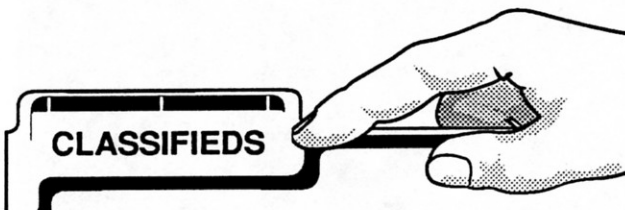
Accidents Waiting To Happen?

by Joe Stencel

While our lost-time accident record is very good this year, the following list of first-aid items during May and June indicates that we have come very close to a real accident. We cannot afford to be careless! Think safety! Learn from the experience of others, and avoid being an accident case. An accident is a cost to all of us.

- An employee received a 2-1/2" laceration on his palm when he prevented equipment from falling.
- While assisting in a hi-pot procedure, an employee received a shock, which caused him to jerk his hand back and hit his lower right jaw area.
- An employee received a superficial abrasion to his forehead while disassembling a vacuum line, and the hose sprung up and smacked the center of his forehead.
- An employee was lifting and moving an electrical transformer with another worker from the ground up, approximately 3 feet to the back of a truck. He suffered an acute lumbar strain.
- As an employee was stepping off the curb into the C-Site parking lot, her foot slid on wet leaves. She suffered a mild abrasion to her left knee.
- While moving wooden bookcases, a splinter became embedded in an employee's right palm.
- An employee entered a building and took off his sunglasses. While his eyes were adjusting to the change in light, he walked into a unistrut frame. He sustained a contusion and abrasion on his right knee.
- While torquing a bolt, a wrench slipped off the nut causing a contusion to a finger to an employee's right hand.
- As an employee was ripping open taped boxes, his right elbow hit the corner of a metal tape cart. He received a contusion to his right elbow.
- An employee's thumb was pinched while installing a breaker. He received a contusion and laceration on his left thumbnail.
- An employee scraped his head on the side of an open car door while bending down to pick something up.
- A subcontractor received multiple bee stings while removing a swarm of bees on a car and in a tree.

All of these first-aid cases could have been more serious and they also could have been prevented. Slow down! Think of the consequences if you do not perform an action properly.



FREE

Needs a Good Home

A two-year-old fixed black cat named Charlie — likes children and needs a good home. Call Eric, ext. 3176.

FOR SALE

Row, Row, Row

Exercise rowing bike. \$90. Call Rich, ext. 2312

Pickup

1987, F-150 pickup, 46,000 miles, box, bedliner, dual tanks, great shape. \$6,500. Call Andy McInerney, ext. 3444.

Motorcycle

1979, XS 1100 special Yamaha motorcycle. \$950. Call Thomas M. Sereni, ext. 3474.

Motorcycle Trailer

Three bay with spare tire. \$400 OBO. Call Carol, ext. 3529.

Daysailor

17' daysailor, 2 hp motor and trailer. \$1,600 OBO. Call 587-7621.

Fiberglass Century

1971, 21' fiberglass Century with cuddy cabin, I/O 305 engine. \$3,200 OBO. Call 587-7621.

Camera

Konica auto reflex TC, 35 mm, wide angle and telephoto lens, flash and case. \$175 OBO. Call 587-7621.

Physical Fitness Equipment

Bio Dyne universal gym, Nordic Track cross-country ski machine, stationary bicycle, and sit-up board. Will sell separately or as package. Call ext. 3048.

Sell, Buy, Rent, Give Away or Trade

Send your ad to:
HOTLINE Classifieds

Name _____

Extension _____

Items _____

Prices _____

On request, ads will be run in two consecutive issues. Call extension 2757 or send back this coupon indicating your name, the item, and price.