

# Engineering Students Compete In Cool Contest

By Chris Jones

WESTFALL — The drive to get more students interested in science, technology, engineering and math (STEM) took local shape last week as the first annual Delaware Valley Warrior Engineering Invitational was held at the high school gym.

The DVHS Engineering Club was the host for the event in which 14 high school and middle school teams from nine Northeast Pa. schools competed to solve a practical engineering challenge set before them on the morning of the contest.

The high school challenge involved constructing an air conditioner using a cardboard box as the housing, computer fans to move the air through the unit and ice as the cooling medium. The goal was to have the coldest average discharge air temperature from the air conditioner over the two-minute test period.

Middle schoolers used a similar cardboard box and insulating materials to keep their ice (a 2- to 4-ounce cube) from melting over the test period.

DV engineering and physics teacher Bob Curtis put the idea for the contest together along with Jeff Rosalsky of the Pocono

Environmental Education Center (PEEC) and Jolie DeFeis of Air, Soil & Water.

DeFeis said the idea for a local contest began when they were discussing energy and heat conservation during a solar panel installation at PEEC.

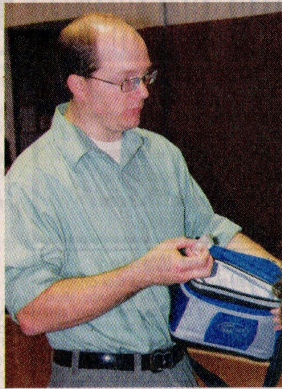
Curtis got independent judges for the contest including Rosalsky,

DeFeis' brother George DeFeis, a professional engineer and teacher at Pace University, and Eugene Ruzanski, an engineer at Schoenagel & Schoenagel.

As the contest began, kids began rushing from their work tables to the supply area picking up things like sawdust, plastic wrap, bubble wrap, tape, batteries and salt, scurrying around like chefs in a blind cooking challenge with strange ingredients.

Back at the tables, some engineers-in-the-making tinkered with the hands-on stuff while others worked a computer-aided design program on a laptop.

Anthony Comunale, an eighth grade pre-engineering teacher at DV, said the computers would be used in the presentation part of the solution, drawing upon the stu-



(Photos by Chris Jones)

**Eugene Ruzanski hands out ice cubes during the practice portion of the contest.**



**From left, Dingman Delaware Middle School students Liliana Hendrix, Chrissy Nagrowski, Matthew Schaefer, Gaaron Goldsmith and Michael Duncan put bubble wrap in the insulation box.**

dents' communication skills.

"Presentation is important," Comunale said.

Putting Learning To Work (PLTW), a nonprofit at the Rochester Institute of Technology (RIT) that realized the need for more STEM graduates, had a big role in shaping the engineering curriculum at DV said Curtis, who used to be a practicing engineer, but who went back to school to become a teacher.

"It's fun being around kids. Kids keep you young," Curtis said.

DV students can get up to nine college credits from RIT by taking engineering classes at the high school.

"These engineering classes are at the level of what I was taking as a sophomore in college," Curtis said.

Both the physics classes and engineering classes Curtis teaches are inquiry-based and about 30 percent lab-based, he said.

In class, a typical problem might be to build something to make a household chore easier.

Another STEM challenge is getting girls involved," Curtis said. They were in a distinct minority at the contest.

Curtis said writing and communicating are a part of engineering and girls are good at it. "They round out the team," he said.



**From left, engineering students Stephanie Marcucci, John Ramirez, Jake Ahner, Phillip Plotkin and Noah Toussaint insulate their box with aluminum foil.**



Contest trophies await the winners.

## And The Winners Are...

The Middle School winners of the first annual Delaware Valley Engineering Invitational are: 1st place - Wallenpaupack Area MS; 2nd place - Dingman Delaware MS (team 1); 3rd place - Dingman Delaware MS (team 2). The High School winners are: 1st place - Delaware Valley HS; 2nd place - Abington Heights HS; 3rd place - Wyoming Valley West HS.