

Engineers build for future

Kids learn basics from professionals

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Newburgh – The task was simple: build a structure with toothpicks and gumdrops.

What happened next was devastating ... at least for the structures. About 15 gumdrop structures were placed in a wooden press, one after the other, to test how much weight each could withstand.

The exercise was done at Heritage Junior High School with Aileen Finneran's sixth-grade science class and IBM engineers as part of National Engineers Week. The aim is to get children, especially girls, interested in math and science.

Stamos Filacouris and Jacqueline Fuentes, both 12, worked as a team to build the sturdiest structure they could. After the weight of the press and one science textbook crushed the structure, Stamos explained what went wrong.

"We expanded out here," he said, closely examining a structure that looked kind of like a smushed L, "which was pretty much a waste of toothpicks."

The point was to teach the youngsters how to work as a team, communicate and learn from their mistakes.

"These engineering principles apply to everything, not just engineering," said Thomas Franklin, who is in manufacturing engineering support at IBM's East Fishkill plant. "This applies to many different types of engineering."

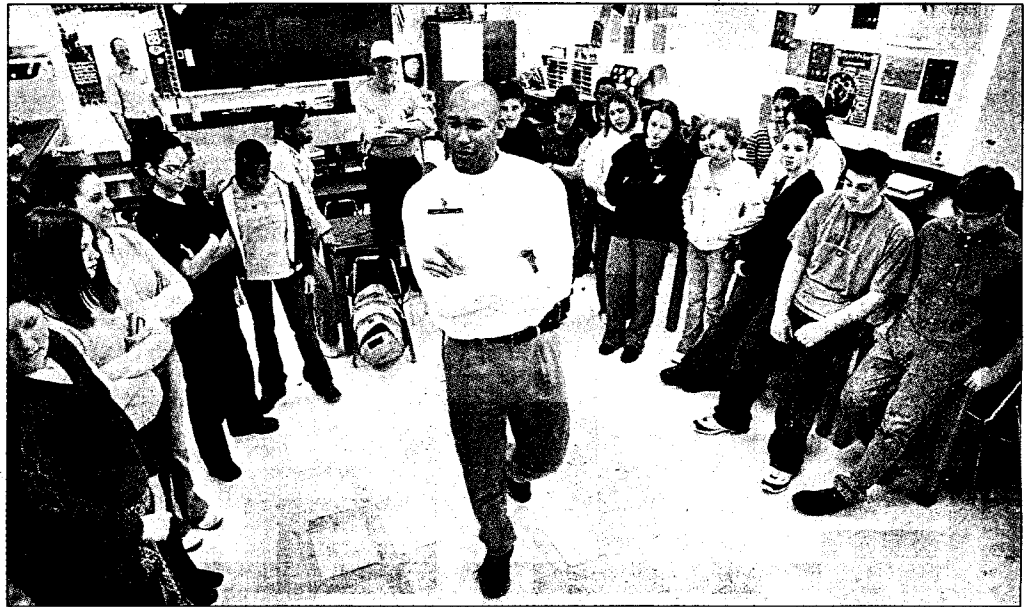
Franklin has been talking to students about engineering at Heritage for the last few years.

"You can just see that they get it and they're excited about it," Franklin said.

Kevin Carswell, an IBM executive, said it's important to focus on women in engineering.

"The whole industry has a lot of work to do," Carswell said regarding diversity. "That's why it's so important to do things like this."

Carswell, Franklin and a handful of other IBMers then moved on to Brenda Finegan's ninth-grade biology class for a new look at engineering.



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Thomas Franklin, center, an IBM manufacturing engineer, explains the rules of a game called *The Matrix Activity* yesterday to a ninth-grade honors biology class at Heritage Junior High School in Newburgh as part of National Engineers Week. The game emphasizes engineering skills, teamwork, communication, leadership, project management and problem-solving.

This time, students had to cross a "minefield" constructed out of manilla folders and tape – unscathed. The students had to pay attention to when their classmates "blew up" to direct others to the other side of the field safely.

Focus on teamwork

Again, the focus was on teamwork. Students were penalized for talking and taking too much time.

Each team had to have a plan, Franklin explained. Not having a plan leads to confusion, he said.

"And that's one of the things that we hate at IBM," Franklin said. "We hate confusion."

Franklin explained the lesson. The first team made it through the fastest. The group was mostly lucky – a lot of important inventions have come about because of luck, he said.

"Everybody wants to be lucky," Franklin said. "On top of that luck, you guys also had some great leadership skills that were exhibited."

Asked if the youngsters to whom they are reaching out will be able to find a job in 10 years as companies like IBM outsource jobs to other countries, Carswell and Franklin said yes.

Technology will always evolve in different parts of the world, especially in the United States, Carswell said.

"There's also continued growth in the economic hearts of the world, in the U.S.," he said.

"We're not really losing, we're dispersing," Franklin said. "Those countries, they're coming up all right but it's up to us to push up and go to the next step. The world is following us. We're not losing ground. We're finding out what new ground is."