

# ScienceKats go

**T**he challenge was to create a remote-controlled vehicle from an orange-crate sized box of scrap parts and have the vehicle scoop up tennis balls and return them to home base.

Sound simple?

Then try navigating the vehicle through a 16-by-16 foot arena covered with seed corn while three other vehicles compete for balls and use their vehicles to attack yours.

That was the challenge faced by engineers Gene West and Tim Garner and two Kokomo High School students when Delco Electronics entered the "Maize Craze" competition. Held in Manchester, N.H., in February, "Maize Craze" was a national engineering competition sponsored by the Manchester-based U.S. FIRST (For the Inspiration and Recognition of Science and Technology).

"Maize Craze" paired leading technology companies with local schools to design, build and test remote-controlled vehicles.

The contest pitted teams against each other gladiator-style in a corn-covered arena. The object was to collect as many tennis balls with point values from 1 to 25 as possible in two minutes and defend against opposing teams trying for the same balls. Teams could also use their vehicles to attack another team's vehicle.

"The contest showed students science can be fun, and that what they learn can have a practical application," said West, a staff engineer in Advanced Development. As such, it was a showcase of science as sporting event.

DE paired with Kokomo High School to design the remote-controlled vehicle and select two students to round out the team. About 20 students assisted in the vehicle concept and design. "A shortage of ideas was never a problem," Garner said, referring to the brainstorming sessions.

Presented with the "Maize Craze" challenge, students responded with more than 50 ideas for the remote-controlled vehicle, everything from using a vacuum to move the corn to a burrowing plow to a self-extending bridge over the corn.

The final design used spiked wheels to get around in the corn, and a built-in movable rake to scoop up the tennis balls.

The team also used an actual structure as home base to deposit the balls, a strategy that

## Final four finish for DE-Kokomo High School team



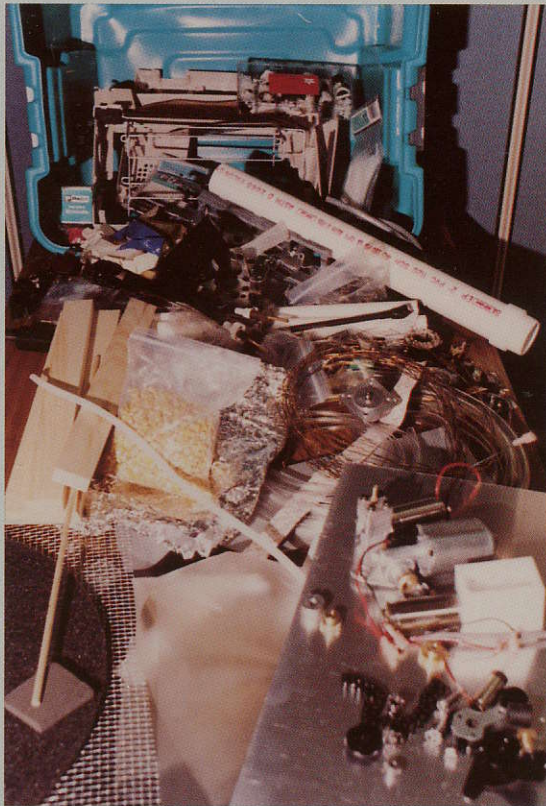
**THE CONTEST:** Teams vied against each other to collect as many tennis balls as possible within two minutes.



**THE SCIENCEKATS:** Tim Garner, Carol Givens, Gene West and Jason Strawhacker were representatives at the competition.



# maize crazy



**THE MATERIAL:** "Cornvette" was created from this miscellaneous parts collection.



**THE STRATEGY:** To collect balls, deposit them at the protected home base structure, then collect more balls or attack an opponent.

gave ScienceKats a decided advantage. Garner said no other team could discharge collected balls, meaning the teams had to return to their home-base area with their ball collection point-values to count.

The ScienceKats vehicle, nicknamed "Cornvette," worked so well that capacity actually was a problem. "We could get as many as 30 balls in the rake," Garner said.

With a vehicle designed and built, students competed in a timed vehicle drive-off. "The students were judged on their ability to control the vehicle, and their participation and contribution," West said. Senior Carol Givens and Junior Jason Strawhacker were selected. Adapting Kokomo's "Wildcats" mascot, the team was dubbed "ScienceKats."

In Manchester's Memorial High School gymnasium, 28 teams gathered from as far away as Seattle and San Diego. ScienceKats competed against high school teams paired with companies like Xerox Corporation, Raytheon Company and AT&T.

Rebounding from an early round defeat, ScienceKats advanced through the loser's bracket and finished in the final four. First place went to the Clinton, N.H./NYPRO, Inc. team and their multi-wheeled robot, "Smilee."

For "Cornvette's" design, speed and performance, ScienceKats also won "The Ultimate Keeper" award — the vehicle the judges would most like to take home. West said this award enhanced the successful project.

Givens, who plans to pursue a nursing degree after graduation, said much of what she learned in physics class applied to the project. She said ScienceKats helped her understand the link between engineering theory and reality. "They (West and Garner) explained everything and really made us feel like part of the team."

For Strawhacker, ScienceKats was a perfect fit to his interest in design engineering. He also praised DE's engineering effort. "It was great to work with Gene and Tim. It was hard work, but everyone shared in the fun."

For engineers West and Garner, much of the success was introducing students to the practical world of science and math. "It's so important for our students to be scientifically literate," West said. "The strength of Delco Electronics, and America, depend upon it." □

— Gil Porter