

SOLAR POWER

The race is on for Parkside Intermediate Sixth-Graders.

It took nearly seven tries, but sixth-grader Hunter Solecki was sure he had it right. The Parkside Intermediate student, along with the hundreds of other sixth-graders at the school, was charged with completing one task — build from scratch a fast, creative miniature solar car that could race 20 meters. And he had three weeks to do it.

“We won ‘most inventive’ because we tried to have six wheels on our car,” says Solecki, now a seventh-grader at Lee Burneson Middle School, who adds he hoped having extra wheels would take pressure off each wheel, making it go faster. But it didn’t work as planned, weighing down the car.

“We learned that weight is definitely a factor. That, and try not to have six different designs,” adds Dylan Komorowski, Solecki’s partner. Kevin Davis was also a member of the team.

The challenge is part of the Junior Solar Sprint held at the end of each school year since 2004, when Kurt Thonnings, technology resource teacher primarily for fifth to eighth grades in Westlake City Schools, introduced the program to teachers. Today, all six sixth-grade classes participate — and there’s a friendly rivalry that’s developed between each instructor as well, Thonnings jokes.

He says teachers hope students will learn a series of lessons that deal with polarity, when connecting the motor to the solar panel; voltage, to ensure each car has enough juice to race; and math calculations, needed to figure the best way to attach gears.

The program starts with a series of experiments. Students measure the angle of the sun to understand how direct sunlight matters, they are shown model block cars — some too heavy,



Students cover solar panels with cardboard until it's time to race.

some with crooked axels — to get a feel for aerodynamics, friction and the importance of good craftsmanship.

“This is a hands-on project that brings a lot of thing together — a lot of science and a lot of math. It’s one large problem to solve. And they have to solve all these mini problems in the process,” Thonnings says. “And it’s something they look forward to. It’s almost a tradition.”

Teams of two to three students are given materials including axels (drinking straws), four wheels, a motor and a solar panel. Other materials they use to build the body of the car are up to them. On race day, three racing lanes drawn in colorful chalk line the elementary school parking lot. Each car is attached to a small wire that will guide the solar car to the finish line as students compete for one of three awards — fastest, most creative and most inventive.

The winning 2009 car was built by now Lee Burneson seventh-graders Alli Collins and Regan Falin. The duo beat out more than 100 cars with an average finish time between 10 to 12 seconds. The winning team boasted a low 8-second finish. “We learned a lot about aerodynamics and team building. You really had to listen to and work with your partner,” Collins says.

Three cars race at a time, so for students not racing, there are vendors all around the parking to visit to learn more about energy efficiency. Past displays have included hybrid cars from Toyota and Honda, and battery powered lawn mowers. Tallmadge company Myers Motors with their new NmG-1 electric car, as well as NASA, have also participated.

But this wouldn’t be possible without support of sponsors and local donors, Thonnings says. For more information on how to get involved, visit www.westlake.k12.oh.us/instructionaltechnology/thonnings/JSS/index.htm. — BS



Alli Collins and Regan Falin earned trophies for posting the fastest time and bringing a victory to their sixth-grade class.