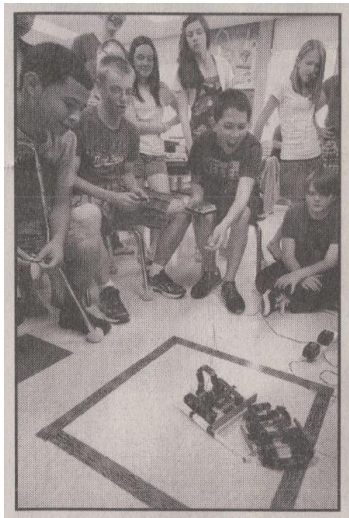
Students test their skills by building, battling 'sumo' robots in a square



KENOSHA NEWS PHOTO BY KEVIN POIRIER

KTEC eighth-graders Justin Obregon, seated from left, Luke Westhoff and Grant Mahant cheer on their machine during a robot war.

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There's a bustle in Bonnie Skurski's eighth-grade science class.

That's because most days her students can be found working in teams, either looking at ways people use energy and their effects on the environment or solving mechanical problems in the engineering or programming systems they create.

In fact, at Kenosha Technology Enhanced Curriculum, a Kenosha Unified charter school, it isn't unusual at all to hear the sounds of metal and plastic colliding along with a steady stream of "oohs!"

At least not if you've just created a sumo bot.

Science principles

For team Marshmallow and team Hunk-o-Junk the competition was more than just a collision of wills.

The two "sumos," named after the Japanese sport in which wrestlers push until one is ruled out of bounds, were created by students to learn about the effects of weight, force, speed and efficiency, just some of the things that engineers look at when they're designing machines, like cars.

"Well, let's say the best way to describe them is they're Legos on steroids," joked Skurski, whose school uses Legos and the building system Fischer Technik in the classroom for their projects.

Marshmallow, a low-to-the-ground, somewhat aerodynamic vehicle with longer than usual wheel rods, looked to be at a considerable disadvantage. Next to it was the mammoth Hunk-o-Junk, which, true to its name, had a massive five-by-six-inch rectangular (big for a sumo bot) footprint along with a second story for added weight and a military-style tanker wheel system.

The students also constructed interfaces, remote controls and programmed them to communicate with their bots, which were mobile in all directions.

The competition

Team Hunk-o-Junk — consisting of eighth-grade students Rachel O'Brien, Justice McBain, Maddie Nousaine and Zachary Rodriquez Korbas — had some trouble with their bot. It moved well in an early round, but now it failed to power up.

When they finally did get it going again, they had to remove added weight to improve mobility.

Marshmallow — whose team members were Josh Cox, Nikiya Edmond, twins Mitchell and Melanie Manske and Hannah Leischner — gave the behemoth a run for its money.

Marshmallow engaged Junk by throwing a left hook that left the behemoth spinning as it became caught in the wheel rod. In the end, however, the bigger vehicle was too much as it broke free and pushed the smaller one out of bounds.

Game over.

Other students built other similar vehicles. Oscar Youngquist, who was Colin's teammate in another contest, said tractor-style wheels like the one on Junk — with treads and greater surface area combined with the weight of the vehicle to give it traction — had an advantage when it came to pushing. A lower center of gravity also helps, they said.

Abby Green and Kaylee Connor competed against Youngquist with their bot. Their lighter vehicle, even with the plow for a front end, was no match.

"We tried to make something that would push them, but it obviously didn't work because it was too light." Kaylee said. "If it had been a race, though, we would've beat them easily, because ours could move faster."