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More than 1,000 middle/high students dive into UWO math contest, get a taste of college

Written by Grace Lim, University of Wisconsin–Oshkosh News Bureau

The buzz started early at the University of Wisconsin–Oshkosh. By 8 a.m., buses from 30 school districts across the state began unloading more than 1,000 middle and high school students on campus, their chatter and excitement echoing across academic buildings and hallways.

Inside, the competition was serious. Heads bent over timed tests. Teams huddled, whispering strategies.

This was the 7th annual UW-Oshkosh Mathematical Problem Solving Contest. Part competition, part college tour, part celebration of curiosity, the event gave students a chance to flex their problem-solving muscles and see just how far math and their own potential can take them.

Held each spring, the math contest was founded by UWO mathematics professor Eric Kuennen as both a challenging academic competition and a way to introduce students from 30 school districts to the college experience.

Kuennen and his colleagues develop the contest questions in a way that doesn’t rely solely on mathematical smarts.

“They’re not the typical school math exercises or problems,” he said. ”They’re outside-the-box puzzles where you don’t need any particular knowledge of a math topic. It’s all about thinking about things in a different way.”

While the morning was reserved for timed math contests, the afternoon exploded with possibilities.

More than a dozen interactive sessions were held from UWO’s departments in chemistry, computer science, nursing, geography and beyond that opened their doors. Students launched weather balloons, mixed bath bombs in chemistry labs and maneuvered through a giant logic maze taped on the floor.

“We want these students to experience college life,” Kuennen said. “This is a recruitment effort as much as it is a celebration of mathematics. And we want them to have fun doing it.”

Greenville Middle School math teacher Brian Reichard has been bringing students to the contest every year since it began. This time, he brought 48 middle schooler students. Reichard, who majored in elementary education and minored in math, graduated from UWO in 2010.

Reichard co-leads a math club that meets every other week, and this year 55 students signed up.

“We do different fun activities and have little prizes,” he said. “They really love math, and they want to challenge themselves.”

Melissa Rohde, who teaches sixth grade math at Greenville Middle, said their team has grown steadily over the years. She credits that success to focusing on mindset and confidence before diving into math concepts.

“We start the year by spending a good quality, I’d say, week and a half before we actually start any concepts,” she said. “We work through those non-curricular tasks to really build that engagement and competence. Then we can start to do the math.”

Rohde ties math concepts to real-life examples. Fractions and unit rates become baking or shopping lessons. Speed connects to driving.

“When that turns into things like slope and algebra in seventh and eighth grade, the kids can see that real-life connection instead of just being like, ‘Oh my goodness, I’m never going to use this ever,’” she said.

Greenville Middle routinely maxes out on the number of students they can bring to UWO for the competition.

“Our sixth graders were disappointed that they couldn’t come this year, but they are really excited knowing next year they get to do this and they get to be a part of it,” Rohde said.

**Interactive college sessions**

One of the most popular stops this year was Nursing Math Adventures, an activity hosted by the UWO College of Nursing. Students rotated through stations where they measured vitals, practiced using IV pumps and calculated medication doses. All the while, they learned how math saves lives.

Amy Schumacher, a learning support teacher from Seymour Community School District, brought 23 students from the district.

“I think it’s important for us to be exposing our students to not only life on a college campus and the opportunities that college can bring,” she said, “but also just to know how math is an integral part of our education and how many careers and professions use math on a daily basis.”

For Schumacher, the hands-on activities in the nursing wing made the value of math tangible.

“It’s exciting for our kids to see somebody really using math in action,” Schumacher, whose daughter Annika, a UWO junior majoring in nursing, showed the younger students how to check the vitals on a

patient in a simulation lab.

Other activities include, *Predicting the Weather with Balloon Launches*, where participants explored atmospheric science with a real-time demonstration of how weather balloons collect data and *Chemical Reactions: Make Your Own Bath Bombs*, which gave students the chance to experiment in a chemistry lab and walk away with a fizzy souvenir.

**Math masters**

At Reeve Union, UWO math professor Amy Parrott supervised the Math Exploration Center, a hands-on math playground featuring puzzles, games and a life-sized logic maze laid out on the floor.

“It’s not like a normal maze,” Parrott said. “It’s set up to force students to really think about what’s going on in the puzzle, solve it and also have fun.”

Among the students navigating the maze were 15-year-old twins Justin and Jeffrey Parrott, ninth graders from Oshkosh North High School. They also happen to be Amy Parrott’s sons.

“I like the logic,” Justin said. “Like, how you have to think about it to solve the problem.”

Jeffrey agreed: “It’s like Sudoku. It’s a logic puzzle,” he said. “You have to think about everything all together and as a whole.”

Both brothers have been surrounded by math since they were young, since both of their parents are math instructors. Justin is even considering becoming a math teacher one day.

Renee Witte, a teacher at Faith Lutheran School in Fond du Lac, has attended all seven contests.

“It’s a really good opportunity for kids to see problem solving in a different way,” she said. “And I also think it’s really good for them to see that math can be fun.”

She brought 12 students this year.

“They’re a little bit nervous,” she said. “But they do enjoy coming and trying something different. It’s really good to do something on an academic level, not just sports or arts, that lets kids use their gifts in a different way.”

Ninth grader Tommy James from Menasha High School said the contest helped her grow in unexpected ways.

“It really helps you challenge your skills and push yourself to try harder,” she said. “Especially with the team event. It really helps you push yourself to do your best.”

She’s been on the math team since seventh grade.

“I’m good at it,” Tommy added. “And it helps me learn how to teach others, like my best friend who isn’t the best at math. It helps me learn how to explain things better.”

The day wrapped up with an awards ceremony in the Kolf Sports Center fieldhouse, where trophies were awarded to top-performing middle and high school teams and individuals. For Kuennen, the contest continues to fulfill the original vision he had seven years ago.

“My goal was to develop something that would be annual and become a destination event,” he said. “We’re in an era where math is sometimes devalued because it’s hard. But in my view, we should embrace that. That’s the fun part.”