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Making learning fun: All-girl team takes first in Lego contest



Chubbuck Elementary School sixth-grade student Brennan Bell, 12, of the Lego Ligers, watches his team's Lego robot take off on the course during competition this past weekend at Pocatello High School. Journal photos by [Bill Schaefer](#).

POCATELLO - Many years from now, Natalie Malm may look back on a career as an engineer and have Legos, a good teacher and an Idaho State University student to thank for it.

The sixth-grader at Indian Hills Elementary School and five other aspiring engineers on an all-girl team took first place overall in a science competition this past weekend hosted at the old gymnasium in Pocatello High School. Shortly afterward, Natalie telephoned her grandfather, a professional engineer, and informed him of her plans to follow in his footsteps. The project that made math and science fun was building and programming a Lego robot capable of achieving several basic tasks without remote control.

“Things like that don't come up often in Pocatello. Even then, only a handful of students in Pocatello got to participate,” said Natalie's mother, Nancy. “I have a degree in math. We definitely push math and science for our kids.” Seventy-five students on 10 teams from Pocatello, Chubbuck and Idaho Falls spent the past semester designing their robots and developing computer programs to make them work as part of the FIRST Lego League Competition. It's part of the GK-12 program, funded by the National Science Foundation to improve science literacy among high school and middle school students, and to create stronger partnerships between Idaho State University and local schools.

The robots were given 150 seconds to complete 10 basic tasks, such as freeing a Lego dolphin from a net, moving toy crates back to a home base and righting fallen Lego flags. Malm's team, called Many Ideas-Multiple Intelligences, consisted of girls from Indian Hills and Lewis and Clark Elementary School who met weekly with Cathy Kratz, the facilitator of the Gifted and Talented Education program at Gate City Elementary School.

“It was complex, but that was what was part of the fun. They really enjoy doing things they haven't done over and over again,” said Kratz, who also entered a few other teams from her program. “This is one of the few competitions we have for academics and problem solving. Kids really bought into it. I heard over and over again how much they enjoyed this. It didn't even matter if they won.” Teams were given \$450 Lego kits with a certain number of gears, light

sensors, rotation sensors and as many Lego parts as they cared to use.

Five ISU engineering undergraduate students helped teach the students about gear ratios, programming and other aspects of building a working robot. Natalie said the ISU student who worked with her group, Brad Schroeder, helped her identify engineering as a possible career choice. The night before the competition, Schroeder met Natalie and her mother to help Natalie add a last-minute program that earned her team several points. The alterations enabled their four-wheeled robot, called Water Wonder, position its Lego claws in such a way that it could move toy crates - one of the 10 tasks.

The competition was organized by Richard Wabrek, a professor of engineering at ISU, and Hannah Sanger, the local GK 12 coordinator. "There are 75 kids and 150 parents there. It's like going to a big sporting event," Sanger said. "They really work hard at making it as exciting of a competition as possible."

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