

An evening of experiments: Students present at Science Fair

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HOUGHTON - Weeks, even months, of hard work paid off Monday night for more than 260 area elementary- and middle-school students Monday, as they got the chance to show off experiments they designed and executed at the 17th annual Western U.P. Science Fair.

According to the release for the event, students from 14 different schools in Houghton, Baraga, Ontonagon and Gogebic counties participated in this year's fair.

"We have a lot of teachers that do the science fair as part of their curriculum," Shawn Oppliger, Director for the Western Upper Peninsula Center for Science, Mathematics & Environmental Education, said. "We have a group of teachers that do the science fair every year. I send (guidelines) out directly to the teachers, and from there, they work with their students. A lot of them have been doing it for many years."

Displays were open to the public in the Memorial Union Building ballroom on Tech's campus from 5 p.m. to 6 p.m. and then judges for the fair had a chance to preview the projects, and talk to the students in individual interview sessions.

"They write a written report, they put together a display, and then there are about 70 judges who judge the fair, and they interview the students, so every student is interviewed by judges," Oppliger said.

According to the judges' packets for the fair, some of the criteria for the interviews included how well students could explain why they chose their topic, what they learned, how the hypothesis was formulated, what procedures were chosen and why, and how they formed a conclusion from their experiment.

Oppliger said a hypothesis is one of the first factors a judge will look for when evaluating a project.

"The first thing they're going to look for is a hypothesis. What they're going to be doing is, in a hypothesis, you have two variables. One is changed by the person who's doing the experiment - that's called your independent variable. So, for example, if it's time, you might change your time, and if that's going to affect something, then they see what the effect of that change in time is, and that's your dependent variable," Oppliger said.

Oppliger said the process of creating a project for the fair ties in with existing curriculum for the students involved.

"The scientific process is part of the middle-school and late-elementary curriculum. This allows (teachers) to use the science fair as a way to teach that scientific process in the development of a project," she said.

Tucker Store, a fifth grade student from Houghton Elementary, worked with a partner to test different toy cars and airplanes in a homemade wind tunnel.

"We wanted to better understand aerodynamics and center of gravity," he said. "In the early '20s or '30s, that's when they started testing in wind tunnels, so we wanted to better understand the same thing with airplanes."

Store said he and his partner had been working on their project for about three weeks.

"We first put the car on the scale, and we recorded the weight for fan off, then we turned the fan to high and recorded the weight for high, and did the same thing for medium or low.

Store said one of the things he enjoyed most was getting the chance to work on the experiment with a partner.

"Yash and I before, we knew each other, but we weren't really good friends ... this brought us together to be better friends," he said.

Indicating the car sitting on the scale at their display, Store said he also enjoyed the process of conducting the experiment.

"With the testing, the red limo right here, we thought it would be really stable, but it wasn't. It did really bad. It was fun seeing how different models of cars and airplanes did in high wind speeds," he said.

According to the release for the event, award-winning projects will be displayed at the Carnegie museum in Houghton from April 9-18.

Fest shows science demos

HOUGHTON - While they weren't presenting their own experiments, students attending Monday's Western U.P. Science Fair had the chance to enjoy some fun, interactive demonstrations at a Science and Engineering Exploration Festival held concurrently with the fair on the ground floor of the Memorial Union Building on Michigan Technological University's campus.

Students from 12 different student organizations put on demonstrations at 22 different stations, according to an itinerary for the festival, ranging from making liquid nitrogen ice cream, to a 3D printing demonstration, to boat building.

Joan Chadde, Education Program Coordinator for the Western U.P. Center for Science, Math & Environmental Education, said the demonstrations were not only educational, but also a treat for the students attending the fair.

"We want it to be really fun for the students that come to the science fair, because they've spent a lot of time working on their projects, and this is kind of a reward," she said.

Students not involved with the fair were invited as well, Chadde said.

"We really try to get it out a lot and invite them," she said. "We see it as maybe a potential hook for students who don't currently participate in the science fair - they'll get a chance to see what a project is, and then they'll see that this is a really fun thing, and they'll want to come back and be a part of it."

Ellen Nightingale, a fourth year civil engineering major, was helping fellow members of the American Society of Civil Engineers teach the younger students about concrete.

"It's really exciting just to see them interested. You ask them, 'is concrete cool?' and all of a sudden, they start to think, 'yeah,' ... and then you mention how concrete's used, and then they start looking around them, looking for concrete," she said. "This simple blend is used for so many things in their life ... making those world connections is really cool to see."

Houghton High School fifth-grader Cyrus Hamlin enjoyed an activity that demonstrated distribution of pressure

"If you have a balloon on a nail bed, it won't pop, because the pressure is spread out over everything," he said.

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