



EARLY ENGINEERS

MIDDLE SCHOOL, HIGH SCHOOL STUDENTS COMPETE IN ENGINEERING FAIR AT SCIENCE MUSEUM IN OKC

BY JIM STAFFORD
For The Oklahoman

Seventh-grade engineer Trever Rittberger from Yukon and his teammate Levi Davis set a device of their own design on a table Tuesday at Science Museum Oklahoma and began pumping air through a clear plastic tube.

Composed of cardboard, tubing, syringes, and filters made of sponges, coffee filters and cheese cloth, the Yukon middle school students were attempting to extract pure oil from a mixture of

coffee and vegetable oil.

Rittberger and Davis were two of almost 900 middle school and high school students from across Oklahoma competing in a state-wide Engineering Fair, sponsored by the GE Foundation, the philanthropic arm of General Electric.

The Engineering Fair is part of a \$400,000 STEM initiative launched by the GE Foundation in partnership with the Oklahoma Center for the Advancement of Science and Technology

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Yukon seventh-grader Trever Rittberger explains to judges the engineering process that went into his team's oil extraction device Tuesday at Science Museum Oklahoma. [PHOTO PROVIDED BY OCAST]

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Fair: Initiative seeks to spark interest

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(OCAST). The initiative was created to inspire greater interest from high school students in science, technology, engineering and mathematics.

Rittberger explained his team's tactic to pump oil out of a can and run it through a filter high overhead before it would drip into a second can.

"We want to use gravity," Rittberger said.

However, oil was impeded by the redundant filtering system and none reached the final reservoir before time was called. It was far from a failure, though.

The pair received positive feedback from Daniel Brue, event judge and lead research engineer at the GE Oil & Gas Technology Center in Oklahoma City.

Brue asked the students what they could have done differently before telling them "I love the design."



Yukon seventh grader Trever Rittberger, center, explains the engineering that went into his oil extraction device for judges Tuesday at Engineering Fair activities at the Science Museum Oklahoma. [PHOTO BY JIM STAFFORD, FOR THE OKLAHOMAN]

Brue treated every one of the teams that competed to the same line of questioning.

"I ask them what they have learned from this experience and what they would change in their designs to improve it," Brue said. "The kids put a lot of effort into it, so I want to talk to them for a

bit and not just score it and send them on their way."

Similar engineering challenges were ongoing Tuesday at stations across the massive Science Museum Oklahoma.

Some students were engaged in a spirited bridge building competition, while electric motors were the focus of another. Other

competitions included rubber band-powered vehicles, Eiffel Tower building, table tennis ball launchers, aerospace competition and something called Wacky Wonder Works (think Rube Goldberg inventions).

"It's energizing to me to see our next generation of scientists and engineers who are engaged in these engineering activities," said Michael Carolina, executive director of OCAST. "I think the students will take from this the spirit of competition, the spirit of teamwork. You not only have to know the discipline and knowledge of scientific principals, but also how to work as a team, depending on each other to get a particular task accomplished."

Jim Stafford writes about Oklahoma innovation and research and development topics on behalf of the Oklahoma Center for the Advancement of Science & Technology.

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