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Nebraska Science Olympiad tests high school students' mental, not physical, skills

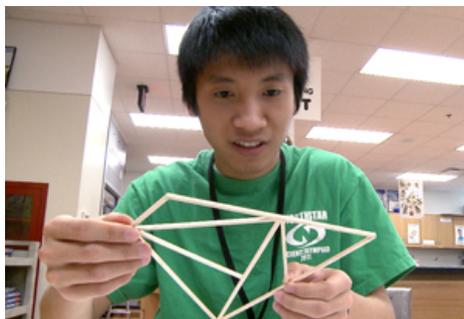
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Gary Hochman, NET (2012-04-20)

LINCOLN, NE (NET RADIO) - Class is over at North Star High School in Lincoln, Nebraska - and Olympic contenders are filing into Room 209.

But these would-be Olympians aren't athletes.

"Did you get the lasers?" asks science teacher James Blake.



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High school junior Nguyen Ho works on his tower for the Nebraska Science Olympiad competition.

Instead of running races, these Olympians might build them. They're budding scientists aiming to compete in Nebraska's Science Olympiad - a competition featuring teams from middle schools and high schools across the state who square off in activities that emphasize science concepts, processes and science applications.

North Star's team is coached by Blake.

"The Science Olympiad is a series of events, where people from all over the state of Nebraska can come together and decide who has the best mind or who has the best skills," Blake said. "(It's) a way to compete using your thinking. So you have to take tests, just like you would in class, but there's also what we call building events.' So, they get to use their hands."

North Star's team has 15 members, and most are working in groups of two or three.

Isabelle, Ngoc and Lega are competing for the first time; they're building proteins. Stephen and Phat are building a copter that will fly using rubber bands, and Bowen and Devin are working with lasers and optics.

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Kayla and Michelle are working with rocks and minerals: "We get to like pick up a bunch of different kinds of rocks that you don't normally get to see, outside normally natural environments, like volcanic rock and stuff," Kayla said.

Blake mentors each group throughout the competition.

"I'm pretty hands-on," he said. "I naturally enjoy building events, so I get real excited ... I have a garage workshop,





High school junior Nguyen Ho works on his tower for the Nebraska Science Olympiad competition.

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so I'm always building small things at home."

Master builder

North Star's rising star is junior Nguyen Ho.

"I'm working on a tower made of balsa wood," he said, demonstrating his building event entry. "I'm interested in

computer programming and architecture."

Ho is originally from Vietnam; he moved to Lincoln eight years ago.

Blake said he sensed Ho had great potential.

"I realized he had a natural skill to build things," Blake said. "Nguyen has been very self-confident but really quiet.

"He didn't show any of his projects until the day of the competition," he added, "so it was hard to know what he could do."

But Ho's results were outstanding. In the three years that he's been competing in the tower event at the Science Olympiad, he's been one of the state's highest scorers.

His design looks a bit like a windmill or the Eiffel Tower - a wide triangular base with a soaring squared shaft. The struts form a series of small triangles stacked at angles.

"Here's the last year design, which is similar to what I built this (year)," Ho said, drawing the design on graph paper. He carefully measures each strip of balsa wood and makes precision cuts, because there are strict rules for the tower's height, weight and top opening.

He then dabs a thin film of glue to the end of each strut, slides them into place and pins them to dry. Ho uses as little glue as possible: every bit of weight affects the tower's score. The lightest, strongest tower will win the event.

He said it takes between 6 and 8 hours to design and build a tower for the competition.

Soon, Ho and his teammates will be ready.

Trial run

A regional Science Olympiad recently took place at Omaha's Henry Doorly Zoo. It was a trial run, meant to prepare the 450 participants for the statewide tournament.

Science Olympiads are an academic version of a track meet, with 23 events involving biology, chemistry, earth science, physics, engineering and technology.

It's time for the tower event.

A judge measures and weighs Ho's tower to see that it meets the event's rules.

Then, Ho sets a loading block attached by a chain to the tower's narrow opening. The chain is lowered through the tower assembly and hooks onto to a pail set beneath the tower's base. Each competitor begins filling the pail with sand - they have 10 minutes to try to load the pail with up to 15 kilograms.

That's about 33 pounds - a heavy load for a balsa wood tower. The lightest tower that holds the most weight wins.

"(I'm) very nervous," Ho says. Four minutes into the event, a SNAP! as his tower collapses under the weight of the sand. But did Ho's tower hold more weight than his competitors?

The judge sets the pail on a scale: 11 kilograms. Ho waits as each contestant competes and tower after tower snaps apart.

When the results are tallied up, Ho has the high score, and is eligible for the state Science Olympiad.

Blake knows Ho will be ready for the challenge.

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