

Joe Logsdon, a teacher at Seneca Valley High School, explains what happened to the Seneca Valley team's robot during the BotsIQ battle at Butler County Community College on Thursday. The Seneca Valley team's robot, named Nemesis, finished in a three-way tie for 17th place. All 21 teams in last week's preliminary round will be among 65 teams competing in the finals at California University of Pennsylvania on April 13 and 14.

PHOTOGRAPHY BY JUSTIN GUIDO/CRANBERRY EAGLE

BotsIQ battle

High school robotics teams compete in preliminary contest at BC3

By Steve Ferris
Eagle Staff Writer

BUTLER TWP — Hammer 2th and Last Ride didn't fare well in the gladiator-style battles they fought in an enclosed arena Thursday, but the students who built them learned a lot and will move on to bigger things.

Hammer 2th is a robot designed and built by one of the two Butler High School teams who competed in the preliminary round of the Southwestern Pennsylvania BotsIQ competition sponsored by Pittsburgh Chapter of the National Tooling and Machining Foundation that took place at Butler County Community College.

Last Ride was Moniteau High School team 2's robot. Technical difficulties prevented Moniteau's team 1 robot from competing.

Moniteau's Last Ride finished in a three-way tie for ninth place and the school's second robot, Rising Sun, finished in a three-way tie for 13th place.

The Seneca Valley High School team's robot, named Nemesis, finished in a three-way tie for 17th place.

Butler's second robot, Perpetual Motion, finished in third place.

All 21 teams in last week's preliminary round will be among 65 teams competing in the finals at California University of Pennsylvania on April 13 and 14.

The other half of the 65 schools participating in BotsIQ will have their preliminary round next week at Westmoreland County Community College.

Each battle lasts up to three minutes and is fought in an arena enclosed by transparent material intended to protect spectators from the flying shards or chunks of robots that get dislodged during the fearsome clashes. The enclosure was set up on the stage in BC3's Succop Theater.

Hammer 2th was outmaneuvered by DL Bot Squad, the robot built by a team from Deer Lakes High School. DL Bot Squad's spinning weapon found its mark and disabled Hammer 2th's weapon and one of its wheels.

"We lost continuity in our weapon and right wheel," said Braedon Fencil, a junior on Butler's team. "We put up a good fight. They won, but it was a good battle."

The team fielded a running robot, something not all teams did, and the pre-



Moniteau High School student Cameron Lawhead helps prepare his team's robot for a preliminary battle during the BotsIQ competition Thursday at Butler County Community College.

All the students that do this have to make a commitment to stay after school. They meet in study periods and after school.

Joe Logsdon,
Seneca Valley High School teacher

liminary round is intended to let the teams find and fix problems, said Stephanie Peters, a Butler High School math teacher, gifted program coordinator and one of the team's advisers.

"This is one of the first times they've run the bot to see what's working and what isn't. They had a running bot ready to go."

There are larger lessons to be learned from the competition.

"They really are learning all the STEM manufacturing elements they need for a career today and they're having fun," Peters said.

She said the students built the robots from materials donated by Penn United Technologies and purchased with donations from XTO Energy. American Glass Research is another sponsor.

The students in the contest are in the schools' robotics club, and they built their robots after school on Wednesdays and Fridays beginning in December, said Dale Mills, a science and technology education teacher at Butler High School.

Butler club members also enrolled in the Butler County Vocational-Technical School made their robot's spinning weapon and sent it to Penn United for heat treating, he said.

All the plans and parts

for the robots are documented in a binder in accordance with manufacturing industry standards.

"They can completely rebuild that bot using that binder," Peters said.

Designing and building the robots requires skills in math, science, writing, technology and teamwork, Mills said.

"The kids have to work together as a team," he said.

Those who were able to stay late were going to help take down the arena and clean up after the event.

"We might make it out of here by 10," Mills said.

The Butler team members are seniors Jacob Owczarzak and Patrick Kriley; juniors Noah Proctor, Chad Meier and Braedon; sophomores Zach Potter and Zach Scott; and freshmen Alex Karnrumpf, Alex Grey and Katie Knights.

Ryan Gallagher, a senior and captain in Moniteau's team 2, said the Highlands High School team robot knocked out Last Ride's throttle, but not until after the two engaged in several high-speed impacts. Last Ride managed to disable its opponent's weapon.

"I think we did pretty good," said Ryan, who was at the helm of Last Ride's remote control.

Hunter Hudak, leader of Moniteau's team 1, said his team's robot over-

heated and the speed control didn't work. The team couldn't fix either problem.

Along with Hunter and Ryan, Moniteau team members include Cameron Lawhead, Justin Altman, Cassidy Fisher, Will Tenney, Zack Hartman, Jake Smith, Dylan Demko, Ross Tenney, Russel Parks and Nicholas Hougg.

Seneca Valley's Nemesis didn't pass the pre-competition inspection because of a broken pillar block, which mounts to the body and helps support the motor.

Joe Logsdon, a Seneca Valley High School teacher who works with the robotics club, said the competition was a learning experience and he is proud of the students.

"All the students that do this have to make a commitment to stay after school. They meet in study periods and after school," he said.

The students designed and built Nemesis using computer aided design technology, 3D printing, CNC machining and electronics, he said.

The team includes four freshmen who are new to competition.

"It was a learning process. There's a learning curve with younger kids. They always underestimate the amount of time it takes to get this done and overestimate their skill level," Logsdon said.

Seneca team members are seniors Luke Bellack, Tyler Johnson, Robert Rodgers and Ben Snell; juniors Caroline Cohen and Jordan Ritchey; and freshmen Brandon Wright, Robbie Gibson, Jeremy Gill and Tiler Stoops.

Dear Doctor: I've been hearing about adenovirus, which is often mistaken as the flu. How can you tell the difference? And is it as serious as the flu?

Dear Reader: Your question is a great reminder, especially during flu season, of how complex and ubiquitous viruses are. They cause a host of illnesses, with the common cold alone blamed on more than 200 identified subtypes of virus and many more that are still unidentified. One main group of viruses is adenovirus.

Adenovirus got its name because it was first isolated in the adenoids, although this isn't the only place it's found. More than 60 types of adenovirus exist, with some causing much different symptoms than others. Serotypes 3, 5, 7, 14 and 21, for example, have been associated with more severe disease.

Adenoviruses most commonly cause upper respiratory symptoms. These include inflammation of the throat, leading to a sore throat, and swelling of the membranes in the nose, leading to runny nose and nasal congestion. Such symptoms are often accompanied by headache, fever, fatigue, muscle pain and stomach pain.

But adenovirus can also lead to conjunctivitis, laryngitis, bronchitis and even pneumonia. Adenovirus-caused pneumonia more often affects those younger than 5 years old, accounting for 15 percent of pneumonias in this age group. Young children can also be affected by subtypes of adenovirus that lead to diarrhea, which can last up to eight to 12 days.

In rare cases, the virus can affect the brain, causing meningitis or encephalitis, or lead to inflammation of the liver and the heart muscle. In people with a compromised immune system or those who have had an organ transplant, adenovirus can lead to more severe disease and possible death.

Adenovirus is a resilient virus.



Robert Ashley

It can survive for long periods on environmental surfaces and -- though bleach, formaldehyde and heat can inactivate it -- the virus is resistant to many disinfectants. It can be transmitted through respiratory droplets spread by sneezing, coughing or contact with secretions. Adenovirus is also shed in the stool for many weeks after an acute infection. Without proper hand-washing by all parties, the virus can then be taken orally by another individual.

Because adenovirus is easily transmissible, it's associated with outbreaks of infection in day care settings and among military recruits. In fact, military recruits are now vaccinated against adenovirus, which has decreased their rate of infection.

Adenovirus is diagnosed by either viral culture or by tests producing more rapid results. The treatment is similar to those for other cold viruses -- fluid intake, rest, acetaminophen or nonsteroidal anti-inflammatory drugs (aspirin, ibuprofen) for headache and medications for diarrhea. For people who are taking drugs to suppress the immune system, the antiviral medication cidofovir can improve survival.

Yes, many of the symptoms are similar to influenza, especially in young children. The fever in those under 5 with adenovirus averages 102.6 degrees. This is similar to influenza. However, influenza is a much deadlier virus, especially among older individuals, causing thousands of deaths per year. Although adenovirus can cause significant illness, it doesn't usually lead to the intensity of sickness and the death rates seen with flu.

Rapid flu tests can help distinguish whether a specific illness is due to influenza or another virus, such as adenovirus, but the point remains: If a person becomes dehydrated or if his or her mental state changes, seek emergency help. Neither illness should be taken lightly.

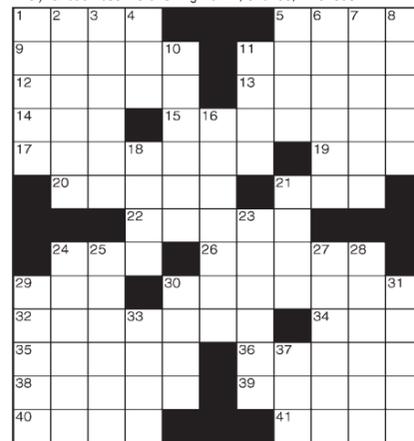
CROSSWORD

By THOMAS JOSEPH

- | | |
|-----------------------------|-------------------------|
| ACROSS | DOWN |
| 1 Latvia's capital | 1 Treatment center |
| 5 Move quickly | 2 Like O. Henry tales |
| 9 Writer Jong | 3 "The Lord — ..." |
| 11 Shade | 4 King beater |
| 12 Crude home | 5 Block-head |
| 13 Assuage | 6 State without proof |
| 14 Hydrocarbon suffix | 7 Laughed loudly |
| 15 Players at the plate | 8 Secret meeting |
| 17 Old-fashioned ingredient | 10 Writer Camus |
| 19 Acquire | 11 "Memory" musical |
| 20 Amulet | 16 Maker of weapons |
| 21 Nap site | 18 Chore |
| 22 Pilfered | 21 Trounce |
| 24 Buble boat | 23 Admits |
| 26 Change chemically | 24 Smiling, perhaps |
| 29 "I — Rock" | 25 G, for one |
| 30 Improves | 27 Red shade |
| 32 Tops, as toast | 28 Shipping inquiry |
| 34 Bitterly cold | 29 Let up |
| 35 Nepali, e.g. | 30 Affleck and Kingsley |
| 36 In reserve | 31 Nobel, for one |
| 38 Scout shelters | 33 London gallery |
| 39 Snooped (around) | 37 Japanese drama |
| 40 Advantage | |
| 41 On this spot | |

Answers to this week's crossword, cryptoquote and Sudoku puzzles appear on **Page 18**

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3-14

CRYPTOQUOTE

X J G X F J N Z G W B J A B E F C
D A B G S K F H P A G A Z J B D E X .
X J G X F J N Z G W B J A B E F C
X G N J B P E F I B H S K G A Z J B D
A G K J A Z J B . — L H O Z J F F J
G I W L W

SUDOKU

Each row must contain the numbers 1 to 9; each column must contain the numbers 1 to 9; and each set of 3-by-3 boxes must contain the numbers 1 to 9.

		7	3			1	4	
	9					8		
2				9				
6				1				
1				5				
4	5	9		7	6	3		
8			1	3				2
7			9	8				6
	1	2				3	5	

Difficulty Level ★★★

3/14