

Science program teaches youth about engineering

By Kevin Rushworth
MULTIMEDIA EDITOR

A program hosted at Spitzee Elementary School has helped youth in Grade 4 relate to the school's science curriculum through interactive learning offered by a volunteer engineer.

The Alberta Science Network (ASN), a not-for-profit that provides scientific outreach province-wide, offered its Scientists & Engineers in the Classroom program at the High River school on March 2.

Volunteer Gillian Hurst, a licensed mechanical engineer, led four sessions, each of them starting with a 10-minute presentation on engineering with the remaining time used to build and test model cars.

"All the kids were really excited to do it," she told the *Times*. "They got to learn a little bit about how that related to simple machines, which is one of their units in science."

Hurst, a rotating equipment specialist with Nutrien (formerly Agrium), said the short lesson offered information on engineers and their line of work, which includes solving problems.

While a goal of hers is to inspire more young women to study engineering for their career, she explained she hopes all the children who participated left with further understanding of the field.

Hurst said her lessons began at Notre Dame Collegiate two years ago, and that it was during this time when she learned about the ASN. She conducted sessions at Holy Spirit Academy last year.

The project offers curriculum-related, real-world experience, Hurst said. The lessons come during a time when some groups worldwide have become dismissive of science-based teachings, she said.

"That's a basis for what I do, and I think a basis for understanding how the world works, everything relates to science and math," Hurst said, adding other subjects are also paramount.

"Arts are a central part of what you need to do as an engineer," she said, referring to her lesson plan acronym STEAM (Science, Technology, Engineering, Arts and Math).

Hurst said creativity is key when creating engineering solutions for customers.

"That artistic side of it is present in pretty much every engineer, but it's not obvious," she said.

To this day, Hurst said promoting engineering to young women and girls is her underlying goal. She added Engineers Canada hopes to have women make up 30 per cent of engineers by 2030.

"It's not right now," Hurst said, noting the number has stagnated and any growth from the past few years has stabilized. "That's actually surprising for most of the women I know who are engineers."

During her presentation, she advised the children about different, prominent engineers.

"Within each discipline of engineering, there are so many different industries you could go into, and so many things you can do," Hurst informed the paper. "There are endless possibilities."

Lesley Mercer, a Grade 4 teacher at Spitzee Elementary School, said it was exciting to afford the students an opportunity to learn from science professionals working in the community.

"(This is) especially (important) when it's encouraging young kids to start thinking about design and

getting excited about different types of building," she said.

Mercer said the school's Grade 4 team was thrilled by the ASN's project proposal and to have Hurst teach four of the classes about engineering and making and racing their own model cars.

The children had the opportunity to be "mini-engineers," through their ability to test what worked—and what didn't—re-design and try their hands at racing a second time, she said.

"One of the primary responsibilities of schools is to engage kids in a variety of activities, based on the Alberta curriculum, so when they're grown, they can be excited about different fields..." Mercer said.

The project also offered a lesson in scientists working their way through problems.

"...Great scientists make mistake after mistake after mistake, learning all the while," she said.

Ed Kusmirski, executive director of the ASN, wrote in an email to the *Times* that volunteers do 1,000 presentations to 30,000 children on a yearly basis, but most of their volunteers are in urban centres.

He said the non-profit is seeking additional science professional volunteers to facilitate the program in

rural schools. For more information, contact volunteers@albertasciencenetwork.ca.

Hurst is also the program instructor for Project READesign, a four week session at the High River Library that ties together literacy and engineering concepts.

"The basic premise of the program is to read a book with the group and then design (prototype devices) to solve problems for the characters in the book," she said.

This initiative is being hosted through the BrainStem Alliance, based on the original programming—Novel Engineering—developed at Tufts University in Massachusetts, United States, Hurst said.



Kevin Rushworth High River Times

Gillian Hurst, a licensed mechanical engineer, was the volunteer guest speaker at Spitzee Elementary School as part of the Alberta Science Network's Scientists & Engineers in the Classroom program on March 2.

