Zoomed-In Education

Penn Laird Students Use $75,000 Microscope On Loan From Hitachi

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Parent-volunteer Tracy Clark, who works as a chemist for Merck, helps Cub Run Elementary School fifth-graders Aaron Root (top left), Ryan Shomk (top right), Zack Gutshaw (bottom left) and Dwitt Scafadi (bottom right) identify a tooth under a scanning electron microscope Monday at the Penn Laird school. While a standard light microscope used in most school science labs can magnify objects up to about 400 times, this scanning electron microscope, on loan from Hitachi, can reach magnifications of 30,000 times. (Photos by Jason Lenhart / DN-R)

Tracy Clark takes the tooth out of the microscope to help students identify what they were seeing through the scanning electron microscope. The microscope essentially beams electrons at an item and recreates a 3-D image based on how the electrons are scattered and transmitted.

Cub Run fifth-graders (left to right) Ainslee Fortner, Natalie Clark and Madison Sweet with help from parent-volunteer Lynn Lucatorto try to match up the same object pictured under different levels of zoom from the scanning electron microscope Monday at the school.

PENN LAIRD — Students at Cub Run Elementary School are getting an exclusive look at fish scales, bits of fabric and insects on a $75,000 microscope typically found in research facilities.

The TM 3000 Scanning Electron Microscope recently arrived at the school on loan from Hitachi, a manufacturer of consumer and business products and services.

Having the piece of lab equipment is a big deal, said Brian Lux, coordinator of gifted services at the school, because it gives children a rare opportunity to interact with tools that will hopefully influence their feelings about science.

Lux had a connection at Hitachi who let him know about the opportunity. The school found out in May that it would receive the equipment.

“We’re all about hands-on, inquiry-based learning,” Lux said. “If you can [show] kids this kind of technology early, they get excited about science.”

To put the equipment’s capabilities in perspective, a light telescope seen in most school science labs runs about $200 and can magnify items up to 400 times. The Hitachi microscope can magnify items

up to 30,000 times.

“It was way more detailed,” said Julia Lucatorto, 10, daughter of Lynn and Jeff Lucatorto of McGaheysville, who is using the microscope as part of an after-school gifted program. “[Items] look so different; salt looks like marshmallows.”

In addition to the after-school program, the microscope is being worked into lessons for students throughout the school. Fourth-graders, for example, examined a piece of parchment while learning about Jamestown, Lux said.

Students from another county school, as well as James Madison University, also have trips planned to see the microscope.

“That makes you feel kind of good when the university is coming to the elementary school,” Lux said.

The school will return the microscope in mid-November and have it on loan again in the spring.

In the last year, the science equipment available at the school has increased under Lux, who said more than $10,000 in grant funds have helped beef up supplies when funds from the school system for new science supplies were nonexistent.

Lux says the supplies, and especially the electron microscope, make a difference in students’ education.
Students agree.

“In science you get to learn how things work,” said Rachel Bailey, 10, daughter of Don and Amanda Bailey of Penn Laird. “We think [the telescope] is very fun and invite many people to try it.”

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