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## Local student headed to national science fair

Is among 30 finalists from throughout the country

By ELISABETH HULETTE, Staff Writer

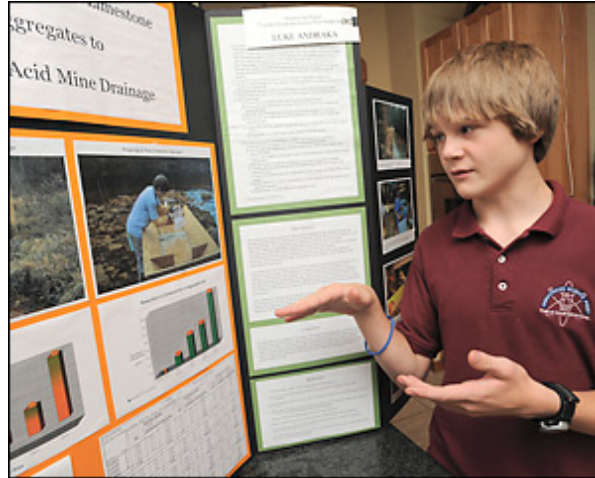
Published October 12, 2008

It was while kayaking in West Virginia last summer that Luke Andraka, an eighth-grader at Chesapeake Science Point Public Charter School, got the idea for his science fair project.

Acid mine drainage, a blend of sulfuric acid and heavy metals, was seeping out of old mines and creating dead zones in the Cheat River, and he thought maybe he could help.

About a year later, Luke's project on how to best neutralize the acid mix using limestone has made it through several levels of competitions and this week, will be judged in a nationwide middle-school science fair.

Run by the Society for Science and the Public, a nonprofit organization in Washington D.C., the SSP Middle School Program is the only national science competition based on science fair projects for students in fifth through eighth grades, said Michelle Glidden, director of science education programs for the organization.



Joshua McKerrow — The Capital

Luke Andraka, a seventh-grader at Chesapeake Science Point Public Charter School, explains his science fair project. This week, Luke will present his research at the national middle school science fair as one of 30 finalists from throughout the country.



Out of about 1,900 students who entered this year, 300 were named semifinalists, and 30, including Luke, were named finalists.

This week in Washington, D.C., Luke will compete for the \$20,000 top prize, partly by solving hands-on science problems with the other finalists and partly by presenting his project on acid mine drainage to a panel of judges.

Companies that clean up acid mine drainage typically use a mix of big and little pieces of limestone and some limestone sand to neutralize the sulfuric acid in the drainage, Luke said. "I wanted to see which can be used most effectively," he said.

He started with several sizes of limestone gravel, ranging from big pieces to sand. By running acid mine drainage through them and then testing the mixture, he learned that the sand had the greatest effect because of its high surface area.

With his project, he competed in Chesapeake Science Point's science fair, then in the school system's regional fair before he entered the SSP Middle School Program.

He also presented his project to Friends of the Cheat, an environmental group for the river, and at West Virginia University, where graduate students are testing water at the Cheat River. Steve Andraka, Luke's father, said he likes how every student at Chesapeake Science Point completes a science fair project as part of their curriculum.

"You need to energize student interests while they're in middle school," he said.

Chesapeake Science Point is the county's only charter school, a school run privately with public funding.

Director Fatih Kandil said Chesapeake Science Point uses the science fair to encourage students to use what they learn in school and make a difference in their community.

"That's the whole purpose," he said, "transferring the knowledge of the finding to the real life practice. It is a step that we want them to take."

Rochelle Slutskin, coordinator of science for the school system, said not all schools do science fairs, but most have their students do some type of scientific research.

"Part of science is understanding experimental design and applying it to a question," she said. "If you don't ever get to design and carry out an experiment, it would be

similar to learning to throw a basketball and never play in the game."

Luke said he hopes his research helps prevent mine blowouts that sometimes happen when acid drainage builds up in a mine and then explodes, pouring the acid mixture into nearby waterways.

"I'd like it to help prevent something like one of these acid mine drainage blowouts and help restore the environment to its original state," he said. "I hope it helps all these streams."

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