

S.T.E.A.M. rises at Mount Hebron

Middle school draws across disciplines

BY KELLY EBBELS
STAFF WRITER

“Just as one can compose colors, or forms, so one can compose motions.”

So said Alexander Calder, an engineer who trained at the Stevens Institute of Technology in the early 20th century and who invented the mobile.

Calder remains an inspiration to many a cross-disciplinary teacher. Arin Leard, an art teacher at Mount Hebron Middle School, the S.T.E.A.M. magnet school in the Montclair public school district, is one of a connected group of colleagues who are bridging disciplines at the school.

This school year, students made kinetic wind sculptures out of recycled materials. Other projects have included handmade “Chia” pets and decorated pots for plants grown in the school’s greenhouse. Students worked on redesigning the common crutch.

Leard will soon be headed to Yellowstone National Park to a teaching workshop program focusing on “S.T.E.A.M.,” or the blending of science and art in education. She is one of twelve teachers from around the United States accepted into the program, taking place June 17 through 21.

“I’m hoping they’re going to blow my mind with inspiration,” she said. “I just think that with all these different perspectives from all different parts of the country, something amazing is about to

happen.”

The five-day program is offered through a grant partnership between Yellowstone National Park and its nonprofit education wing, the Yellowstone Association.

Jess Haas, the youth and college program manager of the Yellowstone Association Institute, will oversee the teaching program, which is a first for the park. As one activity, participants will be led to Yellowstone Lake, where they can ponder the presence of the non-native lake trout eating up the native cutthroat trout. They will take part in Japanese Gyotaku painting to consider the trout in art.

Haas, who has interests in both geology and theater, is passionate about bridging sciences and arts.

“I feel that if people don’t have a chance to make connections with how we learn and how we can appreciate the resources out there, that our resources don’t have a chance in the future,” Haas said.

STEAM POWER

As Leard and others point out, disciplines fold over and across one another. An oil painting needs a frame much like a footbridge needs a buttress. Some lines of computer code might start to take on a rhythm not unlike a poem’s. And wow, fractals sure are pretty.

“I love art, but I’m also interested in bringing art into all curriculums and all subjects,” Leard

said. “It’s exciting to make the connections, and help the kids make their connections ... It opens up new pathways in their brain.”

“S.T.E.A.M.” goes both ways: the arts can inform the sciences, just as the sciences can inform the arts.

Leard has been working closely with Daniel Taylor, coordinator for the S.T.E.A.M. program at Mount Hebron, for the past two years to incorporate arts into other disciplines at the school. The mobile project was brought into the social studies program, Taylor noted.

“To think that the arts are separate from the S.T.E.A.M. courses is a miseducation for the kids,” said Taylor. Finding ways to show students that the disciplines connect and inform each other brings them a heightened level of engagement, he noted.

“When you bring those things together, it really not only legitimizes all the courses, it also generates a sort of different layer of interest,” Taylor said.

“I’m really excited to bring Yellowstone into Mount Hebron,” Leard said. The beginning of art, she said, is inspiration. The natural world contains heaps of inspiration; so does art history, which Leard also teaches. “But mostly I’m inspired by nature,” she said with a laugh. “It’s more interesting.”

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PHOTO COURTESY OF CINDY MCHUGH

Arin Leard, an art teacher at Mount Hebron Middle School, will be attending a workshop at Yellowstone National Park as part of a S.T.E.A.M. outreach program incorporating arts into science, technology, engineering and mathematics, extended to 12 teachers from across the United States.



PHOTOS COURTESY OF ARIN LEARD

Left, a student prepares a decorated plastic bottle to be made into a kinetic wind sculpture as part of the interdisciplinary learning taking place at Mount Hebron Middle School. Above, the resulting kinetic sculptures.



THINKSTOCK

A fumarole, or steam vent, in Yellowstone National Park.

Innovation Faire at Mount Hebron

A fair, or faire, for collaboration between individuals who ‘like to make stuff’

Saturday, June 7, 10 a.m.- 3 p.m.

Free event, open to all Montclair students and families, all ages

Activities include cryptography, mini contraptions, kinetic art sculptures, fuzzy friends (art craft ‘Chia’ pet), 3-D printing, giant magnifying glass, Legos

Contact Daniel Taylor, S.T.E.A.M. coordinator, for more information or to get involved

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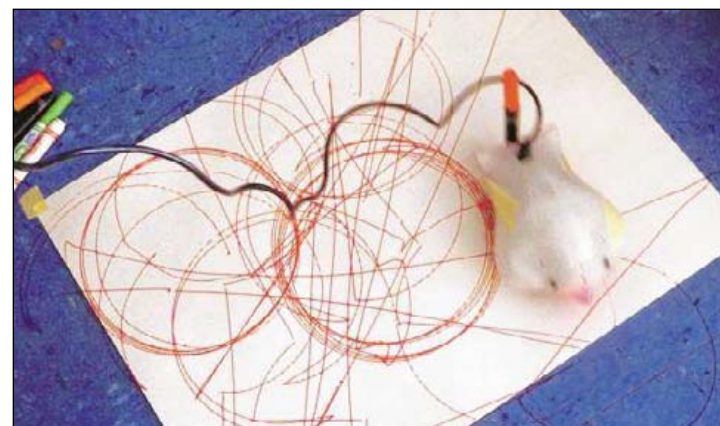


PHOTO COURTESY OF DANIEL TAYLOR

Mount Hebron students try out the Finch, a small robot developed for computer science education.