

## Second-graders Learn to Corral STEM Concepts

Written by Laura Stetser Wednesday, February 27, 2013 04:33 pm



*A series on how Egg Harbor Township Schools and community groups are educating students in science, technology, engineering and math, collectively known as STEM.*

EGG HARBOR TOWNSHIP – Farmer Slim Conover had a problem. He was about to move his cows into new pasture, but he was still missing a fence to keep them contained.

“He asked us if we could help him. He has a severe problem on his farm,” said Slaybaugh Elementary School second-grade teacher Sharon House to the students in her classroom. “This is our background information, or our scenario.”



House told the students that the fictitious farmer, who is named after her real-life father, was tired of having the cows wander out of the pasture and had written the class for their help in creating a fence that would keep the cows safe from danger including a roadway and railroad tracks that are located just beyond the pasture.

“If you can create a fence from natural resources on his farm and that can withstand a strong wind, you would create a great engineering feat,” she said before kicking off the third of her “STEM design challenges” the students have undertaken this school year. In a previous lesson, the class first read a story about how to build a house and then made their own dollhouses out of Chick-fil-A boxes that had to include a rainproof roof.

House’s classroom is part of a STEM pilot program started this year at the school that offers the cross-curricular lessons to younger students, but she said the new program fit nicely into the teaching style that she has used for years.

“This is me. This is what I do. I taught in a multi-age classroom before and this is how I always taught,” she said on why she volunteered to be one of the teachers to try the program at the elementary level.

The introductory STEM courses are expected to lead to success in more challenging and applied courses as the students matriculate up through the grades.

The lessons are geared to foster awareness of STEM fields and occupations, and provide structured inquiry-based and real-world problem-based learning that interconnects the concepts of science, mathematics, technology and engineering. The goal is to encourage students to be more inquisitive and interactive with their world.

The students in House’s class immediately got busy on the brainstorming portion of the challenge, figuring out how to use only sticks, stones and clay to build a 12-inch section of fence.

Competition was stiff: there were prizes on the line. The winning team would receive a notice in House’s newsletter that gets sent home and would win an ice cream treat.

“We could flatten it,” said Madison Rando, 7, of a possible way to manipulate the clay on the bottom of the fence.

“We can’t do that because our cows could get out of there. We need to put it higher,” her teammate Paige Chambers, 7, suggested, concerned that the opening was too large.

“Okay, we will put the rocks on the bottom, then clay, then wood on top,” Rando said while Mia Lopez, 8, sketched the idea.

House said the students seem to enjoy the work.

“The children really enjoy the hands-on activities. They learn so much by actually doing. It’s causing them to use the Bloom’s Taxonomy. It’s causing them to know what the problem is, try it, and then create a product. If you know what’s going on, you remember the concepts,” she said.

While the actual implementation of the pilot program is going well, the preparation is a little cumbersome at this point, she said.

“What I am having problems with is that there are not many STEM activities online for this age group; you have to create your own,” she said.

But all of the research and lesson planning is working out well for the students, Rando said.

“We get to build stuff. It’s fun to do it. We get to hang out with friends and get to learn more,” she said.

*The next article in our series will reveal which student-created vehicle from Donna Efstatos’s third-grade classroom was able to reach a scale model of the moon.*

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