

Alcoa Elementary, UT join together for STEM camp

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Alcoa Elementary School and the University of Tennessee's Center for Literacy, Education and Employment recently partnered together on an innovative, potentially first of its kind, educational opportunity.

CLEE organized a family STEM (Science, Technology, Engineering and Mathematics) enrichment camp last week, which was held at Alcoa Elementary School. To their knowledge, it's the first camp of its kind.

Twenty-one students participated in the enrichment camp, said research associate Kim Chaney-Bay. Organizers randomly selected students for the program, and nearly every student who was invited to attend accepted their invitation.

Students participated in unit lessons about chemistry, electrical energy, matter, and engineering. They baked s'mores in solar ovens, built solar cars, constructed marshmallow towers, created methods to slow an ice cube's melting, designed catapults to shoot gummy bears, identified mystery powders and shot marshmallow slingshots in the gym. They also completed UT's Biology in a Box K-12 education outreach program and learned about viscosity by placing marbles in a variety of liquids.

Students also completed assignments outside

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Justin Buckingham
Fourth grade

of the enrichment camp. They built tetrahedra and completed family literacy assignments.

"We've had a really fun week," said fourth grade teacher Jennifer Nicholson. "It's so nice to be able to focus on creativity and see the kids who might not excel with pen-and-paper activities excel with these types of activities. They've worked together, come up with great ideas and implemented them. They've had so much that they don't realize they're learning anything."

"STEM camp is awesome," said fourth-grader Justin Buckingham. "It's good for people who haven't interacted with a lot of this stuff."

He enjoyed building a rain gauge, solar car, tetrahedron and 10-inch tower out of note cards. "I've had so much fun. It's definitely more fun than a normal school day, and I can't imagine anything could make it any better. It's already the best."

"We've been very



UNIVERSITY OF TENNESSEE GRADUATE STUDENT Michael Swift watches Alcoa Elementary School's Jack Tymon, Autumn Wilson, Taylor Penson and Justin Buckingham build a marble roller coaster out of cardboard tubes and tape.

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CAMP SPONSORS

Camp Organizers wanted to publicly thank Blue Coast Burrito, Chick-fil-A, Costco Wholesale, Alcoa and Maryville Kroger stores, Lee's Famous Recipe Chicken, Lowe's Home Improvement, Maryville College, Alcoa Highway McDonald's, Salsarita's

pleased with the STEM camp," said Chaney-Bay. "It's exceeded our expectations. By getting the families to work together, it's added a lot of meaning to these activities and made them more special. The teachers have done a wonderful job providing guidance, facilitating the learning process and allowing the kids to take ownership. We've seen a tremendous amount of

Fresh Cantina, S&C Cartage Inc., Smoky Mountain Brewery, Stefano's Pizza, Subs & Such, Tennessee Flight Academy, Texas Roadhouse, University of Tennessee Athletics and Alcoa Walmart for their support. ALCOA Foundation provided program funding.

student engagement. As soon as they come into the classroom, they put on their group T-shirts. They're ready to learn."

"The curriculum is amazing," said Principal Merna Schott. "We don't usually see that sparkle in their eyes this frequently."

Nicholson plans to use some of the activities in her classroom. "The curriculum, especially Engi-

neering Adventures, is perfect for classroom use. It's a great way to teach embedded standards. They can learn by doing."

FAMILY ENGAGEMENT

Organizers were especially pleased with the amount of family engagement.

"We're opening lines of communication," Nicholson said. "Students will use these skills every day for the rest of their life. If parents understand how crucial this learning is to their kids, they'd feel more comfortable about becoming school partners. So, we're helping parents to see the importance of STEM (Science, Technology, Engineering and Mathematics). STEM is a foreign term. They don't understand it. We're raising awareness and building excitement."

"We want to coach parents to be educational leaders," said Gary Sonora Surdam, who is president and founder of Bright Start Educational Programs. The company is working with CLEE on the program.

"Parents want to help educate their children, so we're bringing them the tools and walking them through it," he said. "When parents are more involved in their kids' lives, academic success is higher. They will determine their grandchildren's future, because what they're doing today has more far-reaching ramifications than simply influencing their children and their children's futures."

Camp organizers plan to take the concept across the state then nationwide, Surdam said.