Strawberry science



Teagan Leamey pulls her strands of DNA from a

World of Energy hosts free science series through Thursday

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SENECA — Around 40 children were stimulating their minds by delving into DNA at Duke Energy's World of Energy on Monday.

Attendees participated in a hands-on project of extracting DNA from strawberries — an activity provided by Clemson University and 4H's Science on the Move program, which is a partner with iMAGINE Upstate and Duke Energy.

Monday's event was the first part of the "Energize Your Mind" series being held through Thursday at the World of Energy.

The series is one of several programs hosted by iMAGINE Upstate this week, which culminates in its festival in Greenville on Saturday.

Patricia Whitener, county extension agent, helped conduct the first project for Energize Your Mind, where a group of elementary-school age students and teenagers isolated a DNA protein strand using rubbing alcohol from strawberries bought at a local grocery store.

Using the DNA strand, the children were able to learn about how genetics work and how the strand contains all the genetic material that tells a strawberry's characteristics, such as its sweetness, red color and seeds.

"It allows kids to be genetic scientists for a few minutes, and they get to take the DNA strands home with them so they have all the genetic code information to make a strawberry," Whitener said.

The bigger picture for them is learning "the fact that we all possess this genetic-coded information in every single part or our cells," she said.

Whitener said the activity also "demystifies something as complicated as DNA" and shows how this information can be used in real-world jobs — a goal of the iMAGINE Upstate initiative.

The hands-on lesson enlightened children about related job fields such as agriculture and how to breed desirable traits in animals and crop production. The demonstration also showed the importance of DNA in medicine and pharmaceuticals, Whitener said.

Ryan Heafy, executive director for iMAGINE Upstate, said the initiative was founded around a year ago to address workforce development needs in the Upstate.

Heafy calls it a "celebration and showcase in STEM," and said it also focuses the innovative, creative and entrepreneurial activity of the region.

Its goal is how to make STEM — or science, technology, engineering and mathematics — subjects and jobs appealing to children.

In the next five years, Heafy said labor statistics predict 50 percent of the workforce in STEM-related careers will retire in the state.

So, the goal is to inspire and teach children about the workforce and get them engaged as soon as possible.

Heafy said he finds students are often interested and engaged in the topics at a young age, but often become less interested in middle and high school.

"If you think about how we went to school growing up, a lot of it was just numbers and reading books and didn't relate to what we do every day," he said.

Heafy said he remembers dissecting a frog, going on field trips and other lessons learned in classes during school, but the challenge today is showing how it relates to the workforce — and making math and science classes fun.

Sometimes, that means getting up close and personal.

"What we're doing is project-based learning — getting kids hands-on and experimenting with things," he said. "The classroom becomes more engaging when a teacher can teach you geometry with real world examples."

Something as simple as incorporating an iPad into courses generates engagement and an opportunity to learn technology, he suggested.

Whitener said Monday she found the DNA activity connected with all age groups and bonded parents with children.

"The grown-ups had just as much fun as the kids and they were doing it as a family — extracting DNA from a strawberry," she said. "When the kids are side by side with the parents and grandparents, you forget you're doing a sophisticated science experiment — you're just having fun."

Amanda Dow, with Duke Energy corporate communications, said Duke Energy's Foundation has supported the iMAGINE Upstate initiative with a grant, and this week's events are a way to give people in Oconee County a "taste of what is going to happen in Greenville" on Saturday.

More than 60 different experiential hands-on activities will be available at Saturday's festival on Main Street.

This is the first year of the series, but, going forward, Heafy said plans are to make it an annual event, and he said he's excited about the support the initiative has received.

The "Energize Your Mind" programs are aimed at kindergarten through 12th grade, and all start at 10 a.m. through Thursday.

The events are free, and no sign-ups are needed. The WOE is located at 7812 Rochester Highway in Seneca.

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