Egg Drop Physics

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Students learn about gravity, momentum, engineering at Lagoon

FARMINGTON -- Tossing an egg, or anything else, from Lagoon's Sky Coaster normally results in an automatic ejection from the park.

But on Friday, eggs encased in everything from bubble wrap to a stuffed teddy bear's head were tossed legally, all in the name of science.

The 19th annual Utah State University Physics Day at the Farmington amusement park had 350 two-member teams from Utah, Nevada, Wyoming and Idaho dropping eggs.

The high school-age students dropped an egg in a variety of crates from a height of 50 feet onto a 15-foot-wide bull's-eye, hoping the egg wouldn't splat or crack. The experiment tested gravity, momentum and engineering.

"On average, we have a 20 percent survival rate," USU physics professor Mark Riffe said of the eggs. "The thing is, the kids have fun designing the containers and dropping the eggs."

The egg drop isn't the only fun they have. Once the students have dropped the device, they are allowed free time in the park.

This is the fourth year USU has conducted the raw egg drop, a contest designed by a former USU student wanting to add the momentum of a ride to the equation.

The 350 entries in this year's event, Riffe said, is up from the "200-something" entries participating last year.

One student whose egg survived the day was Suprij Prakash, of Syracuse Junior High.

Prakash said that, before coming to the park, he tested his egg crate of Styrofoam and bubble wrap at his home by dropping it off the top of his house. "(The crate) bounced, but (the egg) survived."

West Jordan Middle School students Chelsea Nunez and Sarah Perkins put their egg in a stuffed teddy bear's head.

"We were thinking of something soft," Nunez said, so she grabbed one of her stuffed animals.

While her egg survived, the stuffed animal didn't.

Other container designs included the use of parachutes and semi-inflated balloons.

St. Joseph High students Christina Bischoff and Abby Weymouth, both 17 and from the Ogden area, were successful by strategically inserting straws into a foam rubber wrap. The straws served a dual
role of shock absorber and grabbing tentacle.

"We thought it would work, so we gave it a try," Bischoff said.

Others kept it simple.

Ogden High student Xan Sharin, 15, slipped his egg into a block of foam. "Pretty skilled," he said.

And then there were Mount Jordan Middle School students Buck Milligan and Jim Ereksen, of Sandy, who used a large quantity of bubble wrap to protect their egg.

"We just kept putting the layers on," Milligan said. The pair were confident their egg would survive after they tested the container by kicking it to one another before coming to the park.

Lagoon Vice President of Marketing Dick Andrew said Physics Day brings to the park about 7,000 secondary students, most of them high school age.

"It's a big deal," Andrew said of the number of students testing physics by utilizing the park's rides.

Other events on Friday had students participating in academic bowls, workshops, designing rides and logos, and measuring the G-forces of the Colossus Fire Dragon roller coaster by using accelerometers the students built.

USU physics professor J. R. Dennison said the notion behind the day "is science is a heck of a lot more fun at an amusement park than a dry science lab."

The day serves as a reward and an incentive for students participating in science and provides winners an opportunity to capture scholarship dollars.

Dennison, an event co-founder, said by next year nearly 100,000 teens will have participated in the event.