Eighth-grade students create an earthquake

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While many students were anxious to leave for the holidays last week, Nancy Allen's eighth graders were still busy learning, creating earthquakes with the help of a special guest.

The Gilford Middle School science teacher invited her niece Dr. Erin Burkett all the way from California to give her eighth-grade earth science class a taste of what it's like to study the geosciences.

Allen said her earth science students spent one to two months learning about plate tectonics, as well as earthquakes and volcanoes. She said that her niece, specializing in these subjects, just happened to be on the east coast for the holidays.

Burkett, from the California Institute of Technology, said she was hoping to give interested students a mental outline of a career path that could lead to studying the geosciences, including earthquakes and subduction zones, both closely connected subjects.

She told students that California is one of the prime places to study earthquakes, since they are apt to happen much more often in that region. While she majored in physics during her undergraduate years, Burkett said she has obtained her doctorate in geophysics and is currently immersed in postgraduate studies.

Burkett shared her own focus of study during her presentation last Wednesday morning: the scientific theory of plate tectonics, similar to the age-old theory of continental drifting.

Prior to the presentation, many students in Allen's class said they would have categorized a scientist as a geek of sorts in a lab coat, yet Burkett said that most geologists she knows are active people who enjoy hiking, camping, rafting, and hands on work.

"There are all types of geologists including structural, paleontologists, planetary, volcanologist, and geophysicists," explained Burkett during her presentation.

She informed students that geologists can work out on the field, become geologic hazard consultants, teachers, professors, and even writers who publish scientific papers on the side, and even get to travel to share their findings.

While Burkett has traveled to half a dozen different countries for related conferences, she said her current project focuses on tectonic plate break-offs and subduction, and showed a few simulated videos of earthquakes, and even an 8-million year process of plate breakage related to the current alignment of all continents in the world.

Through models and simulated videos, she was also able to point out areas where earthquakes may be triggered and trigger other natural disasters during this process such as tsunamis.

"Geologists try to figure out these questions and explain them in a way that is understandable to the general public," said Burkett. "Earthquakes are also waves, but through the earth and not the water."

Allen's eighth graders were interested in Burkett's experience in the geosciences field, and the process it took to get there, although they were even more interested in making some quakes of their own.

After the presentation Burkett set up a few earthquake demonstrations for students including a simple model made with a Styrofoam foundation, and dry spaghetti and raisins to symbolize different sized buildings in a city.

When eighth graders Emily Hanf, Hunter Anderson, Alyssa Hamberger, and Stratton Coleman built their model and shook it as though it were an earthquake, the students learned that a building reaction is dependent on the frequency of the quake. The slower the quake, the more the tall buildings are impacted, and the faster the quake, the more the smaller buildings react in this scenario.

After this demo, Burkett took out an "earthquake machine" that she had built herself and showed the students a hands-on concept of an earthquake, the friction of a quake, and the physics behind it, showing that one fault can trigger a quake on another fault.

In prior months Allen said she had been corresponding with her niece while working on this portion of the earth science unit with her students, and was first considering doing a teleconference with Burkett, until she decided to travel 3,000 miles to do so in person.

PHOTO BY LAUREN TINER

Special guest speaker for the day Dr. Erin Burkett of California, with ties to Gilford Middle School, showed eighth grade students what the geosciences are all about.

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Eighth graders Emily Hanf and Stratton Coleman built an earthquake model out of Styrofoam, spaghetti, and raisins last Thursday during their time with the special guest speaker.

PHOTOS BY ROBIN BARON

Let's get physical

Left: Gilford Middle School 7th graders Samih Shafique and Nicole Lurvey getting an amazing workout during their recent kickboxing unit in Physical Education class. Right: Cassidy Demo, Alex Harris, and Abby Reera, 8th graders from Gilford Middle School, groove during their step aerobics unit this past week while in Physical Education class.