

St. Mark's Elementary School, Family Science Night
Grades 1 - 6
March 19, 2013
From 6:30 - 8PM
Laurie Kovalenko

"Why Earthquakes Happen"

I had four large tables in the Science room, as well as the class's large projection screen. At one table I had the earthquake machine - big hit as always. I spent most of my time here (next time set up the Mac seismometer). I also had a large clear basin of water, 3 cans of coke, 3 cans of diet coke, and a box of sugar packets. The cans were models of an oceanic plate. The coke sank, the diet coke floated - showing the difference in density between new and old oceanic plates. As an aside, I asked people to calculate from the ingredients on the can how many sugar packets were added to the coke. Answer: 11. This surprised (and horrified) many parents!

Another table had a presentation board about earthquakes in California. I saw that people did stop by and look at it, though I did not spend much time there.

A third table had the USGS This Dynamic Planet map, my computer with animations looping (mountain building, comparing the energy released in different earthquakes, Pangaea), as well as two of Atwater's cardboard models of the SoCal plate motion, and an ammonite.

A fourth table had two different Pangaea puzzles set up, the one by USGS and the one by Atwater.

And on the classroom's big screen, I had other movies looping, though as it was connected to a PC, some movies did not run (Pangaea and mountain building).

Next time, since I cannot be in all those places at once, I'd have signs at each table explaining what to do:

- At the basin, a sign would say "Why does a can of coke sink while a can of diet coke floats? Look at the ingredients of each. What does coke have that diet coke does not? How many sugar packets does coke have in it? Do NOT open the sugar packets - instead use math to calculate how many you need."
- At the puzzles, have a sign that says "250 million years ago, when dinosaurs roamed the earth, the continents were all attached as one giant supercontinent. In the intervening 250 million years, the supercontinent broke up into smaller pieces (the continents that we have today) that have been traveling across the globe. Can you use the fossil evidence shown on today's continents to put this giant supercontinent back together?"
- At the earthquake machine, a sign could say "Can you make an earthquake by cranking the handle? First predict how many turns it will take, then do the experiment and find out."

I'd also bring different versions of the animations that run on PC and Mac.