
the stars
challenge
Patterns in Nature
Winter 2016

If a child is to keep alive his inborn sense of wonder, he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement, and mystery of the world we live in. — Rachel Carson

Rachel Carson mentions the need for one adult- we found seven. :)

It was our pleasure to direct this spring's interdisciplinary Stars Challenge enrichment course. We welcomed the opportunity to network and coordinate the talents and expertise of many extraordinary teachers such as Ms. Aimee Babbin, Mr. John Bartlett, Ms. Diana Burich, Ms. Erin Colfax, Mr. David Fusco, and Ms. Lois Lyons. In addition, our students Katie Bardsley and Eileen Huang contributed as exemplary role models. We were also lucky to have an enthusiastic group of students whether we were in the classroom, laboratory, or field study sites. Most people think of the classroom with the flow being from teacher to student. In our case, the classroom became a positive feedback loop (a pattern we didn't teach you!). We all learned from each other and walked away each evening looking forward to the next week's gathering.

Thanks for being so much fun!
Mr. Roche and Ms. Gross

The introductory lesson on natural selection challenged "organisms" to compete for prey, as well as having students manipulate computer models to balance populations in simple ecosystems.

Deoxyribonucleic acid may seem complicated on its own, but with candy models even complex polymer chemistry concepts are easier to digest!

What's even better than eating fruit? Extracting the DNA within! Mr. Fusco helped us to extract nucleic acids from strawberries and bananas. We made a bit of a mess, but had a ton of fun!

The tragedy of the commons can be really depressing, but with goldfish crackers, a Rice Krispie pond, and some online simulations, we were able to lighten the mood.

Some may have been upset that we couldn't take a trip to the beach, but we did the next best thing, studying ocean currents and erosion patterns with models and simulations.

With the waves breaking on our model shores, we realized the many challenges of dune stabilization.

Studying patterns in waves became so much more appealing when Ms. Babbin showed up with giant Slinkys.

We were intrigued by the science behind what happens when we blow into a flute or press a key on a piano.

So much (surface) tension! (Who was more worried, Mr. Roche or Ms. Lyons?)

Polar vs. non-polar substances. From shaving cream tie dye to whole milk and food dye creations we learned about the properties of water while demonstrating our artistic sides.

From flowers to pine cones to pineapples, the fibonacci spiral and phi were everywhere.

Taking the path less traveled to finding their inner Frost, students realized that the patterns involved with language and poetry are less daunting than they thought.

Mapping out ways for "everyone to win" when it comes to environmental problem solving?

Patterns were more and more obvious when observed from different perspectives out in the field.

" ... branch ...branch ...log ...branch ...TRAIL CAM! "

Ecoart...

More ecoart...

And more ecoart...


the stars
challenge