
the stars
challenge
Patterns in Nature
Winter 2017

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 five. :)

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 Dr. Jennifer Martino, Ms. Diana Burich, Ms. Erin Colfax, Mr. David Fusco, and Ms. Lois Lyons. In addition, our students Katie Bardsley, Erin Quinn and Hannah Dicovitsky 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.


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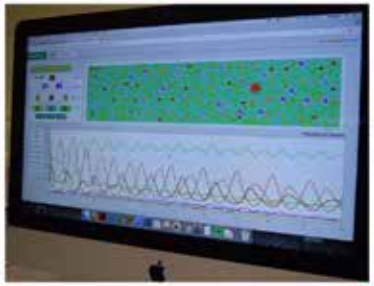
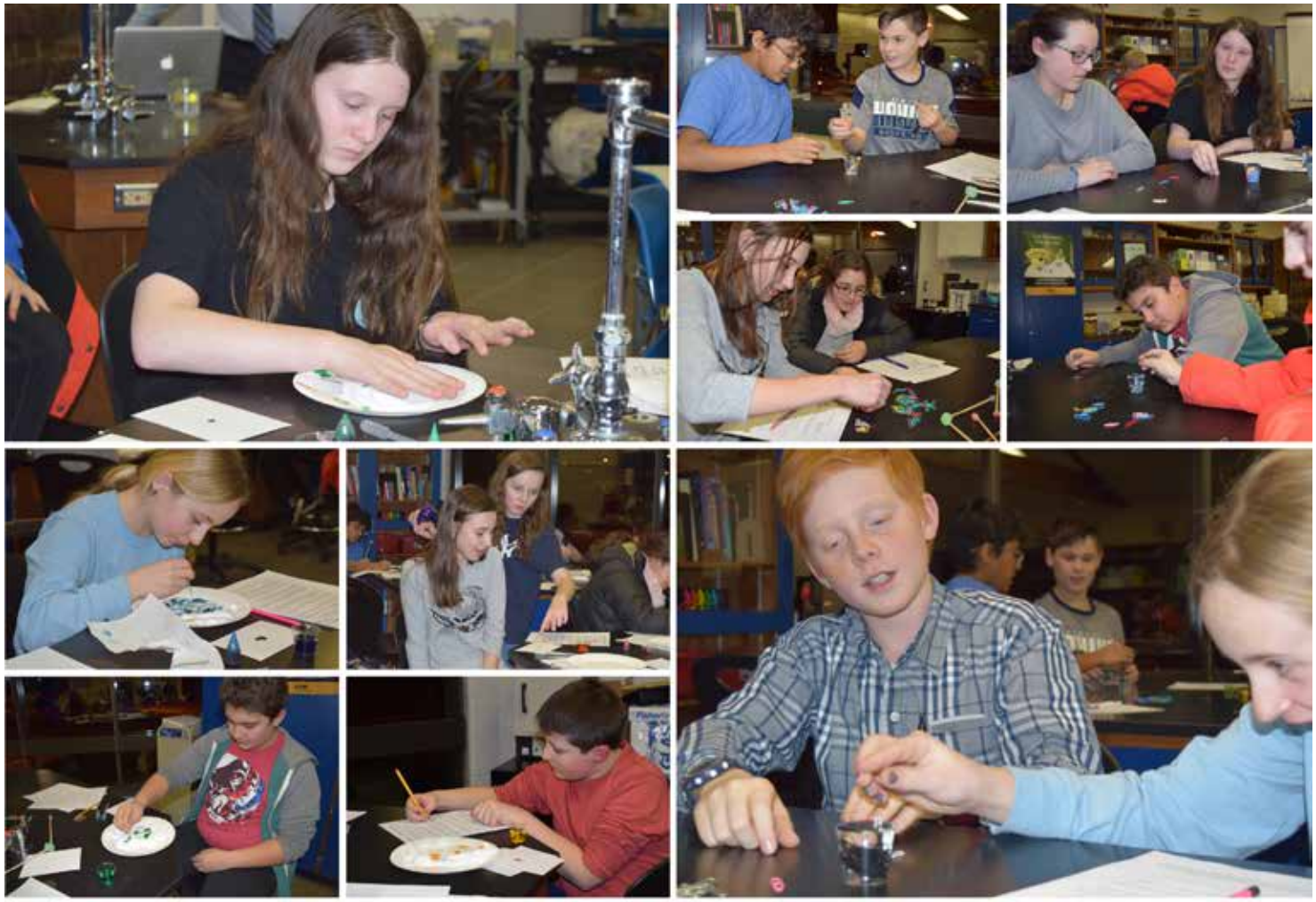
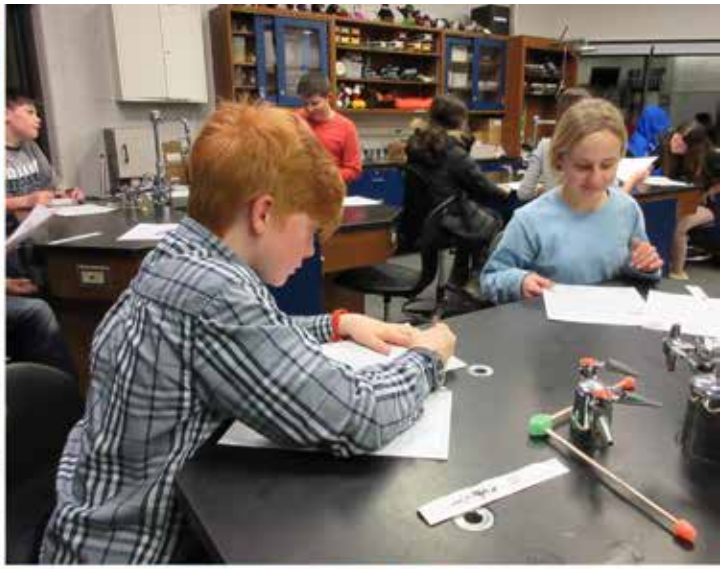


So much (surface) tension! (Who was more worried, Katie or Ms. Lyons?)



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.










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!

Studying patterns in waves became so much more appealing when Dr. Martino brought out the giant Slinkys.

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

"One of these things is not like the other!" Observing live fish and designing our own fish coloration patterns for hiding in plain sight.

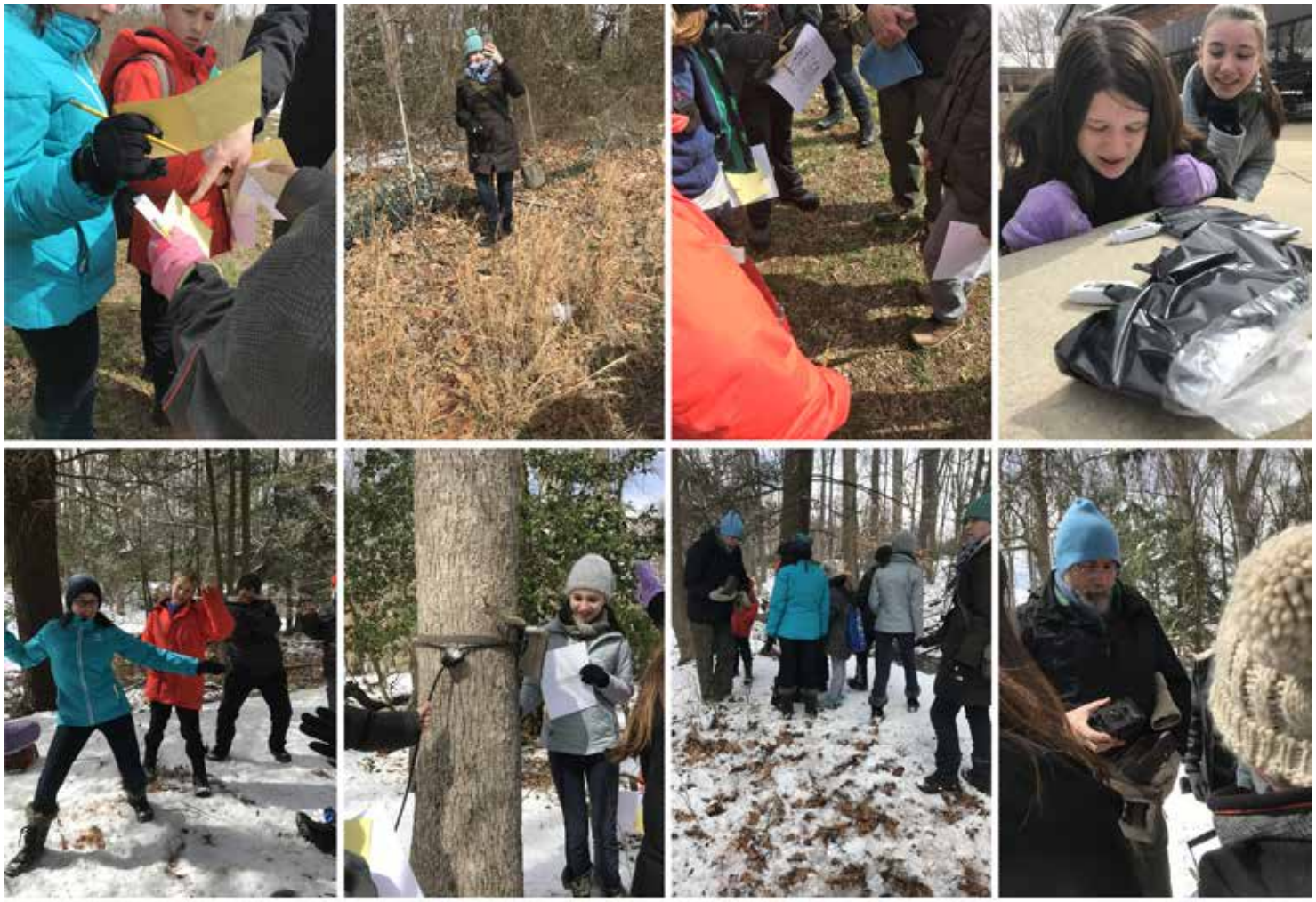
The tragedy of the commons can be really depressing, but with goldfish crackers, a Rice Krispie pond, and some online simulations, we were able to lighten the mood.

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.

Communicating science is another way of demonstrating mastery of concepts

Our Brookdale / HTHS campus provided a perfect setting for one of our final sessions that challenged powers of observation...

... logic, calculation, spatial awareness ...



... creativity, perception and interpretation.

Erin and Hannah (along with Mr. Roche) got to present topics that tied in nicely with The Wild Robot - biomimicry and 3D printing of "Grabtors"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