

Ms. Denig's Science Scene

Issue 1 2014-15



Monarch caterpillars found on school grounds provided a stimulating way for students in all grades to learn about the insect life cycle and animal adaptations. With the help of our unofficial monarch consultant, music teacher, **Mrs. Fratti**, we successfully raised two monarchs and released them. We even tagged one for researchers at the University of Kansas. Be sure to learn about the unbelievable story of the monarch's epic migration to Mexico by visiting the website to the right.

Ms. Denig's Top Website Pick:



Wildlife Migration:
www.learner.org/north

Learn about the migratory patterns of animals, including our school favorite, the monarch butterfly!

Welcome!

While the students have been exploring different topics in the science lab across the grades, we have shared some common areas of interest on all grade levels.

One of my big goals this year has been to utilize our courtyards as part of our living environment curriculum and foster a deeper appreciation for nature. Some of our first and second graders began the year by making seasonal and weather observations out in the courtyard. We also discovered many fascinating insects! All Harbor Hill students have learned a great deal

about the life cycle and amazing adaptations of creatures that we often regard as undesirable and a nuisance. We currently have a polyphemus moth cocoon in the lab and recently found acorn weevil larvae inside of our acorns. See photo caption above to learn about our most magnificent find!



Fourth graders compare water run-off amounts in different soil samples.

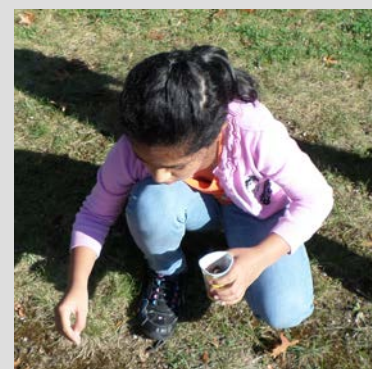
From First through Fifth

Our youngest students learn most effectively when new concepts are deeply connected to their own lives and experiences. **First graders** began the year by exploring the school and courtyard using their five senses and making observations about the changes from summer to fall. Critical language development was supported through the use of songs, poetry, literature and book-making. First graders created a book on the fall and acted out the planting process in the song, *Oats Peas, Beans and Barley Grow*. Nature specimen from the

courtyard was used to reinforce counting and classifications skills. First graders are now learning about how animals survive the brutal winter weather.

Second graders became junior meteorologists during their unit on weather. They made many trips to the courtyard to take temperature readings and observe cloud types. Data was recorded on calendars and used to create bar graphs. Most recently, students have begun exploring linear measurement using both standard and metric measurements.

While gathering fall specimen from our school courtyard, we made two exciting discoveries: acorn weevil larvae living inside our acorns and a polyphemus moth cocoon! Other sightings included three blue jays, a woodpecker, and a squirrel's dray (nest). Wow!



"Teaching children about the natural world should be seen as one of the most important events of their lives." -Thomas Berry



Second graders take temperature readings in the courtyard.



First graders learning texture property words through a collage activity.

Third graders started the year off by reviewing how to use important tools such as the bucket scale, thermometers and rulers. Students sharpened estimation skills and recorded data to create line plots. The astronomy unit was launched as youngsters explored the reason for the seasons and day and night as well as how to discriminate between rotation and revolution. Third graders will soon expand upon these concepts as they learn about the phases of the moon.

Fourth graders enjoyed many experiments that helped strengthen understanding of the water cycle. States of matter and the changes between states were highlighted as well. Students then dissected lima beans and studied different seeds in order to learn about their structures as well as seed dispersal methods that occur in autumn. Fourth graders are currently finishing up a unit on animal adaptations and have also been working simultaneously on a research project with **Mrs. Braunstein** in the computer lab.

Fifth graders were able to put their September marine biology studies to practical use when

they sailed the Great South Bay aboard the Fish Tale charter boat. Students were able to see and touch creatures from this vibrant estuary as well as conduct an experiment on the amount of dissolved oxygen in bay water samples. Youngsters were excited to then begin the microscopic studies unit in the lab where they learned about the history of microscope, the proper names for its parts and became familiar with how to focus a compound microscope. Fifth graders recently began their unit on cells and are studying the cell structures as well as conducting experiments on diffusion.



Fifth graders practice focusing a compound microscope.

For Further Exploration

- 1. Museum of Natural History:** Be sure to see the Butterfly Conservatory at the Museum of Natural History through May 25th, the exhibit on natural disasters, *Nature's Fury*, and the IMAX film, *Tiny Giants*. Visit www.amnh.org for more information.
- 2. Sprout an Avocado Pit:** You can germinate or sprout an avocado pit at home just like the ones I keep in the lab. Remove the pit from an avocado and then wash and peel it. Place three toothpicks around the center of the pit and place it on top of a jar or glass with the pointed end sticking up. Fill the jar or glass with water so that the bottom half of the avocado is submerged but the top half is dry. Change the water every week or so and check for evaporation. The pit will absorb water, begin to crack and the dormant seed embryo inside will begin to germinate and send out roots and then a small green shoot. The process will take several months and you can transplant the tree to soil once you see significant root and leaf development. Many videos on youtube.com can you guide you through the process as well.
- 3. Websites:** Although I prefer that you enjoy the natural world with your child, I recognize that some families enjoy the many digital resources available today. Check out: sciencemonster.com billnye.com kids.nationalgeographic.com



Third graders create line plots using linear measurement data.



Fourth grade students examine seed coats, cotyledons, and plant embryos by dissecting a lima bean.