



ECO News

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EDUCATING CHILDREN OUTDOORS

- Hyde Park Elementary
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- Calais Elementary
- East Montpelier Elementary

"We found black spindles on a tree that looked like skeleton bones!" - 5th grader at Hyde Park



Moretown students writing in their "I Wonder" journals

The Circle of Life in Hyde Park

by Ken Benton

This fall at Hyde Park Elementary, our weekly two hour ECO sessions have been the primary science instruction time for 5th graders. ECO lessons have always been standards based, but with little time to revisit and build off of the lessons back in the classroom, we have had to dive deeper into the Next Generation Science Standards than we ever have before.

Focusing on one standard for our fall unit (the movement of matter and energy among plants, animals, decomposers, and the environment) we began by surveying the logs in the school forest. Armed with iPads for photo documentation, we cataloged logs in at least 5 distinct stages of decomposition, from recently fallen logs to logs that were mostly dirt. You can see in the picture a student holding a sample of a log that had reached stage 5 or what we called the "ghost log." We called it this because if you stepped on it the log would vanish into thin air, crumbling into a pile of soily wood.

After having examined the decomposition process and the releasing of nutrients back into the soil, we took a closer look at the different layers of soil found in our forest: humus, topsoil, and mineral soil. We found that in some areas the humus and topsoil layers were only

inches deep whereas in other areas, we had not hit mineral soil after digging down 12 inches!

From the soil to the plants goes the flow of nutrients. To help illustrate this we played a game in which the students started out as seeds that had to survive several stages of growth without being eaten by a squirrel, deer, beaver or other herbivores. In each stage (seed, sprout, sapling, mature tree) there were leaves scattered on the ground representing nutrients from the soil, sunlight, and water... all that a tree needs to survive.

Finally another game called Owls, Mice, and Seeds made the final nutrient cycle links from plants to primary consumers to secondary consumers and back to the earth. By the end of the unit, students were able to identify and sketch out several different interconnected nutrient cycles in their local ecosystem, many of which included humans and the role we play. Connecting children to the natural world while meeting science standards and learning along the way, that is what ECO does!



Being a Scientist in Moretown by Amy Butler

The start of an ECO day can feel a bit chaotic at times. Children have morning jobs and then need to pack their bags with snack or lunches for a morning in the forest. Clothing has to be chosen with attention to the weather and if you don't have rainpants, a hat, wool socks or mittens, you must sign them out from the ECO clothing stash. With all this preparation and busy movement it can be difficult to get out the door smoothly with a sense of routine and readiness.

At Moretown Elementary, there are 28 children getting ready at once! But soon into this class's morning routine a hush falls over the classroom. On Tuesday's we are scientists and we start our morning routine with a scientific drawing of a macro photo projected on the wall via the ELMO. After getting dressed and packing their bags, children grab their "I Wonder" journals and get to work. Each macro photo selected has something

to do with the day ahead. The rules are: don't name the photo, draw only what you see, add detail and ask questions. These questions are written in their journals.

Children are naturally curious and many of them make inferences of what the picture might be. "It's an insect!" "I bet it's a burdock seed!" But our focus is to have children truly look closely at the image and draw as accurate a picture as they can.

The teachers use scientific and math language to bring out details in the photos and guide the children's drawings. "I see a polygon." "I see tiny hair like things!" The mystery is unveiled later that morning either outdoors or back in the classroom. Children take these observation skills with them during their time in the forest and apply them in numerous ways. We are all scientists, let's think like one!



Thank you for being a part of our ECO family Alex!

My Time with ECO

by Alex Rob

ECO stands for “Educating Children Outdoors” but sometimes I think it should be called the “Outdoors Educating Children”. Nature is our original teacher. People learned from nature for thousands of years before there were any schools. The lessons are gentler than they were back then but they are just as important.

I’ve been involved with ECO since it started at East Montpelier Elementary School. Every lesson I have participated in has taught me a great deal. Each week, I get a chance to see the natural world through the eyes

of a child. We go out into the forest and there is always something cool going on. The children I teach at East Montpelier are starting their third year of bi-weekly ECO and they have wonderful routines. Sharing around the fire, hiding and playing in the forest, practicing outdoor skills, and listening to each other; these are the things they do when they step outside on Wednesday mornings. I began teaching ECO lessons in Calais this year and I was astonished to see how quickly it resonated with the students.

The lessons are grounded in activities that children innately enjoy. At the same time they are learning to value and hopefully protect the natural world of Vermont.

I can’t wait for the next lesson!

Editor’s note: Alex Rob will be leaving ECO staff to become the executive director of Community Connections. We at North Branch Nature Center wish Alex the best of luck in this new endeavor!

Catching Critters @ Twinfield

By Liza Earle-Centers



Probably the single most exciting part of any ECO outing is when students get to not only see, but to also actually touch, some wild creatures. All fall, Twinfield students in kindergarten through 4th grades have been discovering hands-on just how alive the 80 acres near their school are. It was a huge year for grasshoppers, and with the balmy weather this fall, we

were still finding some well into October. “That one has a pinkish head!” and “Look at the red legs on that one!” were just a few of the observations they made while looking closely at their finds. The first graders trekked down to where the Nasmith Brook and the Winowski River converge as part of their water cycle study. Armed with nets or just their own

hands, they collected several dozens of stonefly or caddisfly larvae crawling under the rocks—indicators of a healthy aquatic ecosystem! The more courageous kids scooped up crayfish, or “claw” fish as some of the kids called them. And most recently a 2nd grader found this little wood frog while clearing leaf litter for a math activity.

Owl Banding Season Comes to an End

We’re at the tail end of the migratory window for Saw-whets and south winds, dropping temperatures, and a nearly full-moon all further reduce the chances that we’d catch another owl. So, after nearly 140 net hours, the NBNC owl banding crew are wrapping things up.

While we may be done banding Saw-whets for the year, there is still a reasonable chance that one of the owls we banded this season will be encountered

elsewhere as it migrates south. And as we take a careful look at our data from this season, there is still more we will learn.

If you attended a banding session this year, please consider supporting this project by adopting an owl today. Adoption details can be found at the North Branch Nature Center home page.



"It's so cool that we are exploring this stuff that we normally would walk right by. I am noticing so much more!" 5th grader at Hyde Park Elementary