

WHERE **SCIENCE****HISTORY****AND****ART** CONNECT

To: Raven Hill friends

From: Cheri

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Re: Dreams of "A Living STEM Lab"

This is one of my favorite quotes and I have used it before, but it fits here too. Eleanor Roosevelt said, *"The future belongs to those who believe in the beauty of their dreams."* Raven Hill Discovery Center began as a dream in 1990, transformed into a plan in 1991, and became a reality in 1992. Since then, it has grown into a vibrant regional science and technology center, offering individuals and groups the opportunity to explore how the threads of science and technology are intricately interwoven with history and the arts. Today, that dream thrives through every program, exhibit, and facility at Raven Hill, inspiring curiosity, creativity, and connection for learners of all ages. Each experience continues to celebrate the vision that first brought Raven Hill to life—linking science, history, and art in meaningful and engaging ways—and inspiring the next generation of scientists, artists and historians.

Deer Creek



Collecting, identifying and counting macroinvertebrates reveals the health of Deer Creek.

Deer Creek



*These tiny creatures are the superheroes of Deer Creek! Their presence reveals the health and vitality of the water, making them an essential part of our studies. Every time we find them during our water explorations, it's like discovering hidden treasures that tell the story of a thriving ecosystem.*

One of Raven Hill's cornerstone programs, launched in 1992, is poised to continue thriving into 2025 and beyond—with the right funding in place. During its inaugural year, the Center hosted a program for middle school girls as part of an Eleanor Roosevelt Teacher Fellowship through the prestigious Carnegie Institution for Science. Founded in 1902 by Andrew Carnegie, the Carnegie Institution is a renowned scientific research organization dedicated to advancing fundamental knowledge across a wide range of disciplines, including biology, astronomy, earth sciences, and materials science. This partnership highlights the beginning of Raven Hill's commitment to empowering learners and fostering connections to science, history, and art. The Carnegie program funded a total of 62 middle school girls, who worked in small groups of 6 to 8 at a time. The project provided these young women with the opportunity to explore northern Michigan, while gaining hands-on field experience in biology and geology.

Over the course of two-day field trips, the groups explored diverse natural environments, including beaver dams, bogs, eskers, shale pits, stunning dunes, and the Jordan River Valley. At each site, they collected data related to the geosphere, atmosphere, and biosphere, building a deeper understanding of the interconnectedness of these systems. At the end of each day, the girls compared and analyzed their findings, transforming their fieldwork into meaningful scientific insights.

Raven Hill continues to embody the ideals of the Carnegie Institution, inspiring curiosity and discovery through hands-on learning. For instance, in 1993, Raven Hill and Charlevoix-Emmet Intermediate School District partnered to sponsor a Nontraditional Math and Science Career Expo for middle school girls. This groundbreaking program has provided

hands-on career exploration opportunities, expanding to include boys in 1995. Over the past 30 years for girls and 28 years for boys, these expos evolved from separate days and career tracks to inclusive, mixed-gender groups in recent years. Since its inception, the program has impacted 4,417 middle school students, offering them engaging, hands-on experiences to explore math, science & technology careers.

### Raven Hill Pond



*Raven Hill Pond provides one ideal site for hands-on population studies, offering students the chance to observe and analyze local aquatic ecosystems.*

### Deer Creek



*For most students, putting on waders and using nets to collect invertebrates while studying water quality is an entirely new and exciting experience.*

Through the years, students have explored a wide variety of careers through immersive, interactive experiences. They've participated in on-site archaeological digs, and worked alongside a veterinarian, taking a horse's temperature. They have acted as forensic scientists, dusting for fingerprints and casting footprints. Students have also practiced clearing airways with an emergency medical technician, donned waders to collect macroinvertebrates in Deer Creek, and conducted population studies at Raven Hill Pond. Not only are the students energized by these opportunities, but the professionals who present these hands-on experiences also express excitement & gratitude. These experts love sharing their career paths, promoting their professions, and rediscovering the passion behind their work. For many presenters, it's a refreshing break from the daily routine—a chance to inspire the next generation & reconnect with the beauty of their own dreams.

And the dream continues. Raven Hill is now exploring funding options for an exciting new program inspired by the same ideals that launched the Center 33 years ago. This initiative, currently

titled **Deer Creek Discovery: A Living STEM Lab**, will engage middle school students of all genders in STEM career exploration while fostering environmental stewardship and real-world problem-solving skills. Participants will explore Deer Creek and the surrounding Raven Hill air, land and water through hands-on activities, learning how to collect, connect, and conserve for the future. The program will include data collection, the establishment of a long-term dataset, and the creation of a digital display to share their findings with Raven Hill visitors.

At a potential **Living STEM Lab**, middle school students will experience what it's like to be environmental scientists. Wading into the water to collect macroinvertebrates and analyze water quality, they will learn firsthand how their data can inform decisions that protect ecosystems—just like professionals do every day. Through this project, students will see how careers in STEM can help solve real-world problems. As part of a dedicated team, they will contribute to a long-term study of Deer Creek, with their data serving as a foundation for future research. By emphasizing hands-on exploration, real-world career connections, and the tangible impact of their work, middle school students will be inspired to join Raven Hill's vision for the future, as they become active participants in the Center's enduring dream of discovery and innovation.

This is a pivotal time to begin an ambitious study like this. A bridge is currently replacing the culvert, allowing Deer Creek to flow freely once more through Raven Hill land. Fed by the Center's watershed, the Creek offers the perfect natural laboratory for exploring the interconnectedness of ecosystems, while inspiring the next generation of scientists and environmental stewards. With this new program, Eleanor Roosevelt's dream, intertwined with Raven Hill's vision, will become another shared dream that will continue to inspire all who visit the Center. It is a powerful vision—one that can foster a future of greater understanding and appreciation for environmental science, mathematics, and technology for everyone. This dream is not static, but one that will continue to grow and evolve, reaching new generations and empowering them to explore, create and connect with the world around them. Reach out to Raven Hill, if you are interested in being a part of **A Living STEM Lab** here at Deer Creek and its surrounding watershed.

Raven Hill Discovery Center is open during the winter for regular weekend hours, which are noon to 4pm on Saturdays and 2pm to 4pm on Sundays. To make an appointment for other times, call 231.536.3369 or email [info@miravenhill.org](mailto:info@miravenhill.org). Bring your friends and relatives out to enjoy a fun afternoon of discovery and exploration. If you have been stuck inside and have a case of "cabin fever," Raven Hill is the perfect place for the family to get out, take a class, learn something new and relieve the boredom of being cooped up at home! Remember also that the **Under Michigan & Beyond** exhibition remains on display during regular hours and other times by appointment.

Raven Hill Pond



*During annual career expos, students participating in the fisheries sessions have discovered and logged an impressive variety of life in and around the Pond, including plants, insects, fish, amphibians, reptiles, birds and mammals at the Pond ecosystem.*

Cheri

Deer Creek



*At Deer Creek, the water quality career session offers a unique and interactive opportunity to step into the role of a biologist. Each hands-on activity immerses them in the real-world work of environmental scientists. It's more than just science—it's an adventure that combines discovery, teamwork, and the chance to make an impact, all while sparking curiosity about STEM careers.*