

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

To: Raven Hill Friends
From: Cheri
Date: September 23, 2023
Re: *Special Shout Outs*

Raven Hill Discovery Center would like to give a special “shout out” to both the Charlevoix County and Petoskey-Harbor Springs Area Community Foundations for their 2023 funding awards. Over the next two weeks, more Charlevoix and Emmet County students will have the opportunity to visit Raven Hill and learn about innovation through a national Smithsonian exhibit and the Center’s indoor & outside displays.

Innovation means to change things for the better or improve them. The Smithsonian **Spark! Places of innovation in Rural America** exhibit features small towns across the United States, who have “reinvented” their cities and towns through art, culture & heritage, social events and technology. The Merriam-Webster Dictionary defines innovation as being “the introduction of something new.” According to Harvard Business Review, one important characteristic of an innovative idea is that it solves a problem. Innovation is valuable and improves lives. At Raven Hill, innovation is everywhere and exciting to think about.



Last week at Raven Hill, wherever students went, there were innovations to think about and explore. In the Schoolhouse, students saw changes in schools, including desks, lunch boxes, paper and pencils. They explored the Treehouse, which is probably the only treehouse in the world that is shaped like a maple leaf. It’s certainly innovative with its voice pipes and periscopes. The Jurassic Park walkway begins with the creation of our solar system and ends with modern humans. It shows how even animals have innovated or changed to survive in new or altered habitats!

The Earth Tones Music Garden has a variety of innovative instruments made from wood, metal and even stone! For example, Raven Hill’s lithophone is made from pieces of granite countertop and each key produces a different note. “Litho” means stone and “phone” means sound, so a lithophone makes sound from stone. Lithophones have been around for over 4000 years with many iterations or changes for the better.

There are also plastic slap tubes like the Blue Man Group plays! The Blue Man Group expands concert-goers' minds with innovative music and sound. Some of the group's unique instruments use plastic tubing, just like Raven Hill's slap tubes do. Over 99% of plastic is made from fossil fuel chemicals, hence it is included with the Earth Tones instruments, where all instruments illustrate innovative uses of resources found on or in our Earth.

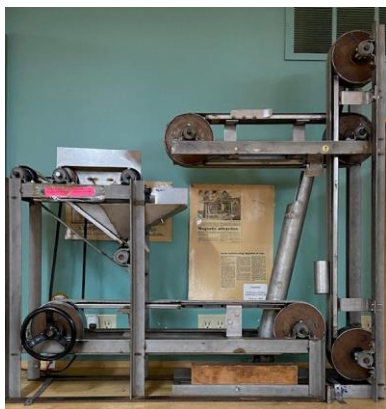


In the Evolving Technology Building students are fascinated with all the changes or INNOVATIONS that have taken place over time. Here they are seeing what Galileo's thermometer looked like when he invented it in 1593.



Replica of Galileo's thermometer made by Scott Bankroff

Students were treated to a walk-through of the Evolving Technology (ET) Building. The ET Building features sixteen time periods from the modern Information Age back to the Stone Age. The building gave students a peak at the innovations in daily life, including cooking, cleaning, laundry, sewing, toys & games, tools, and communications inside. Behind the ET Building, the Evolving Technology Addition (ETA) illustrates innovations in clothing, shelter, energy, transportation & roadways over sixteen panels that mirror the layout inside the building. From there, students crossed the Wetlands Boardwalk to the Center's Ancient World.



The can mover at Raven Hill shows how magnets are used in factories. From magnetic rails to magnetic separators, 12 eighth graders designed and built this machine using cardboard, flashing and balsa wood. The shop at Industrial Magnetics rebuilt the students' work in steel each week between student visits.

Inside the Main Museum, students got time to play in the hands-on Discovery Room, where they saw a demonstration of the innovative can mover built by 8th graders in 1988 and listened to an explanation of incandescent, compact fluorescent and LED (light emitting diodes) lights on the Energy Bike display.

In the Period Room. They learned about several elements that are used in innovative ways and got a demonstration of fiber optics on Raven Hill's Periodic Table of the Elements. They spent time in the Animal Room, not holding the animals, but getting time to really look at the unique displays there.

Finally, they explored the Smithsonian ***Spark! Places of Innovation in Rural America*** exhibit that illustrates how small towns have innovated and re-vitalized their spaces. Many students compared those towns featured in the ***Spark!*** exhibit with local towns, like Boyne City and their National Morel Mushroom Festival, Charlevoix's Venetian Festival or Blissfest Music Festival in Harbor Springs. Everywhere, creative and innovative people are making things better for their communities and themselves, even here.

If you have not seen this newest Smithsonian exhibit yet, be sure to plan a trip to Raven Hill soon. The **Spark! Places of Innovation** exhibit is open daily through Saturday, October 7th. Exhibit hours are 10am to 4pm on weekdays, noon to 4pm on Saturdays and 2pm to 4pm on Sundays.

Thanks to the Smithsonian for their Museum on Main Street (MoMS) program that creates these wonderful exhibits; the Michigan Humanities for their role in bringing the **Spark!** Exhibit to Raven Hill; and to our two local Community Foundations for their support. Their funding has allowed Raven Hill to provide these one-of-a-kind learning opportunities for over a thousand area school students.

Cheri



Above Raven Hill's Periodic Table of the Elements is a helium-neon laser with a radio plugged into it (top right). The sound from the radio is changed to a laser light code. The laser beam is picked up by a lens (top left) and fed into a speaker. When the speaker is turned on, you can hear the radio playing. If you stop the laser beam with your hand, the sound from the radio stops— fiber optics without any fibers!



In the Ancient World, visiting students ascend Raven Hill's pyramid, an interpretation of the Great Pyramid of Giza. Where else in Michigan can you climb a pyramid or triangulate the **date** and time with an obelisk just like the Egyptian scribes did?

 Smithsonian	 Raven Hill Discovery Center August 26 to October 7, 2023	 MI Humanities
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FOUNDATION

Giving Back. Moving Forward.



Petoskey-Harbor Springs Area
 community foundation