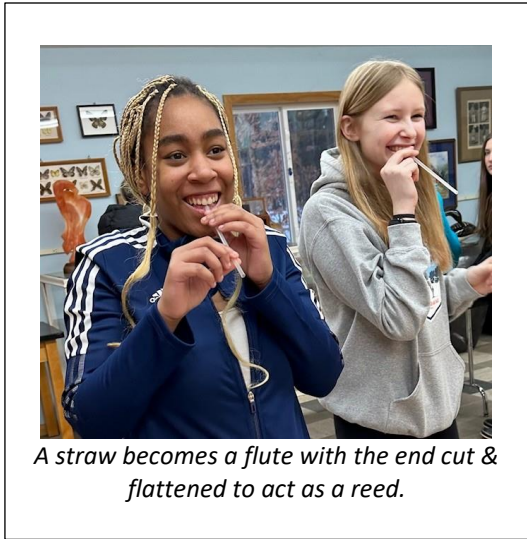


WHERE **SCIENCE****HISTORY****AND****ART** CONNECT

To: Friends of Raven Hill  
From: Cheri  
Date: January 27, 2024  
Re: *Science is Amazing!*

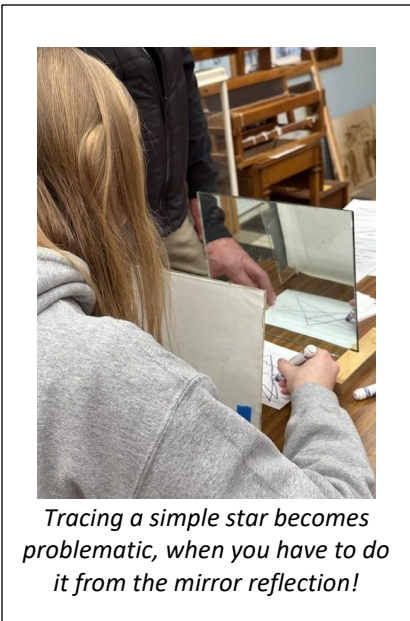
This past week was busy and hands-on! At least that was certainly the case on Monday at Raven Hill as 55 Charlevoix tenth grade students and their teacher spent a few hours here exploring light, sound, motion and magnets, as well as enjoying the interactive science, history and art in the Discovery Room. Their STEM (Science Technology Engineering Mathematics) experiences at the Center will be referred to and reinforced back at school, says teacher Hannah Morgan.



*A straw becomes a flute with the end cut & flattened to act as a reed.*



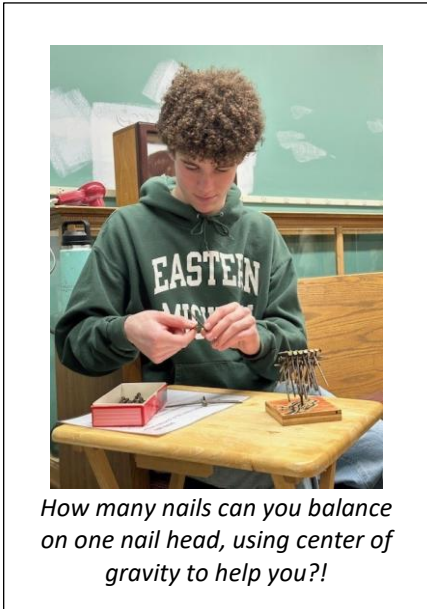
*The Discovery Room is full of hands-on magnets, motion, light and sound!*



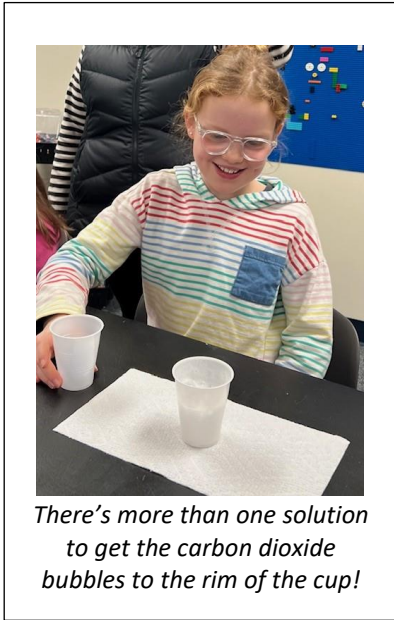
*Tracing a simple star becomes problematic, when you have to do it from the mirror reflection!*



*First one to place all their magnets individually in the eggshell foam board wins. If you place a magnet and others attract to it, they all must go back in your hand to be re-placed in the eggshell! What do you think is a winning strategy?*



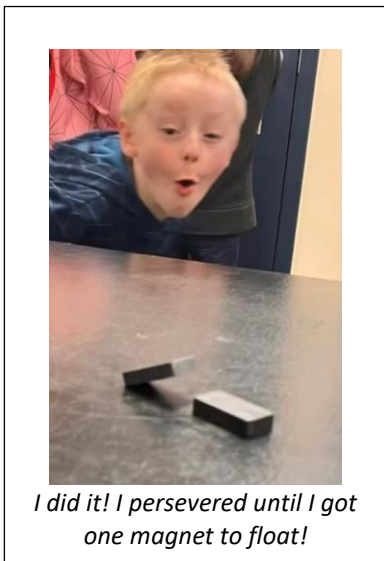
*How many nails can you balance on one nail head, using center of gravity to help you?!*



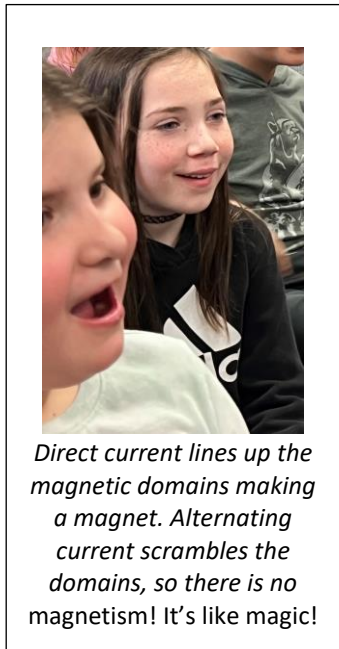
*There's more than one solution to get the carbon dioxide bubbles to the rim of the cup!*

Tuesday, Raven Hill took its Outreach program “on the road” to several of East Jordan’s STEM classes. Nineteen fifth graders took the chemistry of mixing vinegar and baking soda to a new level. They were challenged to go past the fun “volcano” aspects of carbon dioxide (CO<sub>2</sub>) bubbles erupting and overflowing. Instead, students were asked to problem-solve how much baking soda and vinegar gets those CO<sub>2</sub> bubbles just to the rim of a cup –not over nor under. “To The Rim” as an activity encourages students to conduct simple experiments and manipulate tools to measure solids and liquids. Who says science can’t be fun?!

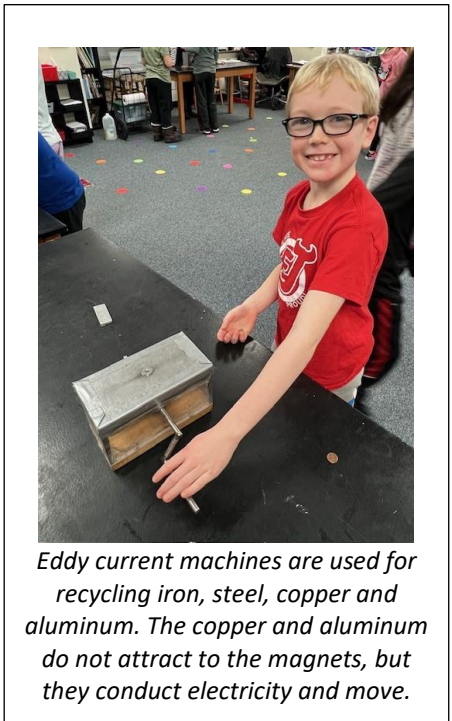
East Jordan third grade classes (56 total) got up-close and personal with the magic of magnets. After using a magnetizer-demagnetizer unit to understand how magnets and electricity are related, students explored how magnets are used in an eddy current machine, a magnetic separator, pole plates and much more.



*I did it! I persevered until I got one magnet to float!*



*Direct current lines up the magnetic domains making a magnet. Alternating current scrambles the domains, so there is no magnetism! It's like magic!*



*Eddy current machines are used for recycling iron, steel, copper and aluminum. The copper and aluminum do not attract to the magnets, but they conduct electricity and move.*

Raven Hill could not function without the help of an absolutely amazing group of volunteers. On Monday, six very special people took a day out of their lives to share their talents and love of science with the tenth graders. Thanks goes to everyone who supported this special informal learning opportunity for local students and for their dedication to hands-on learning. Sarah helped with advance preparations. Ed, Holly, Tom, and Nick presented hands-on science sessions. Debbie encouraged students in the Discovery Room and Jen recorded all the events with great photos. This is also a good time to recognize those volunteers, like Jean, Nancy, Dave and many others, who work regularly behind the scenes to keep the Center clean and the exhibits and buildings in good shape. If you are interested in helping out, please email [info@miravenhill.org](mailto:info@miravenhill.org) or call Cheri at 231.536.3369. Alternatively, as teachers, camp directors, scout leaders or librarians, you can reach out to schedule an exciting hands-on field trip or outreach program for your group.

Raven Hill Discovery Center is currently open on weekends—noon to 4pm on Saturdays and 2pm to 4pm on Sundays—as well as during holiday breaks and other times by appointment. No appointment is needed during weekend open hours, but if you would like to bring a group or your family to enjoy all we have to offer at any other time, please call ahead to schedule a date and time for your visit. Come check us out soon.

Cheri