

Elementary STEAM in Schoharie

Volume 1, Issue 1

December 2016

What is STEAM?

STEAM = Science & Technology interpreted through Engineering & the Arts, all based in Mathematical elements. STEAM education provides our students with the 21st Century skills they will need to be successful in the workforce. Children who study STEAM develop a variety of skills essential for success: critical thinking, problem solving, creativity, innovation, and collaboration. Students at Schoharie Elementary receive 30 minutes of STEAM instruction weekly in the Elementary STEAM Lab (room 136).



The Engineering Design Process

Elementary students were introduced to the Engineering Design Process this marking period. Not only were the students introduced to the stages of this process, but they also engaged in the process while they collaborated to solve a problem specific to each grade level.



Mr. Sun, Sun, Mr. Golden Sun!

Kindergarteners engineer sunshades!



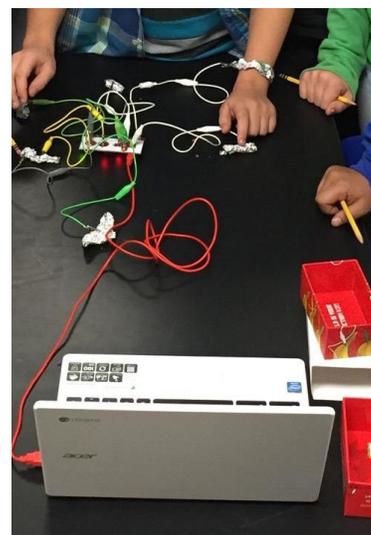
Kindergarteners started this unit by investigating the difference between an ice cube left outside in the shade vs. an ice cube left outside in the sunshine. Next, the kids learned many facts about the sun. Ask your Kindergartener to share some of those facts with you! Armed with some knowledge, the Kindergarteners engineered sunshades using: cardboard rolls, Popsicle sticks, black or white construction paper, and masking tape. Together they tested their creations by observing which sunshade best protected the ice cubes from melting. Finally Kindergarteners discussed why some sunshades worked better than others and what we could do to improve our sunshades if we were to create them again.

Educational Engineers

6th Graders use Makey Makeys to teach others!

6th graders are learning about circuitry, coding, and Kindergarteners! What a combination! 6th graders have been challenged to create a book or game designed to teach something to a Kindergartener. Their tools? The Makey Makey, a Chromebook, Scratch software, and some arts and craft supplies!

Once the 6th graders finish their projects, they will bring them to Kindergarten classrooms to test and improve their designs!



UPCOMING DATES OF INTEREST

12/15	Nanotechnology at Schoharie Library
12/21	Winter Solstice Night Hike at Albany Pine Bush
1/23	SeaPearch Program Starts at Duanesburg Y
1/26-1/30	December Break STEM Workshops at miSci
1/29	Star Lab (Winter Sky) at NYS Museum
2/10	STEAM Night (Grades 4-8), 3:00-5:40

3, 2, 1 ... LIFTOFF!

5th graders become Aerospace Engineers!

How does weight affect a rocket? This is one question 5th graders are currently investigating as they take on the roles of Aerospace Engineers. 5th graders are learning about rockets, rovers, and the International Space Station (ISS). The kids were WOWED by a tour of the ISS! Almost all the 5th graders raised their hands when asked, "Who would like to board the ISS someday?" Their excitement about future possibilities is contagious!

1st Grade Engineers

Who can construct the tallest tower?



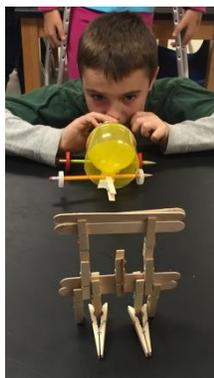
1st graders learned the stages of the Engineering Design Process while they attempted to create the tallest tower using only: 11 plastic cups and 20 tongue depressors.

The tallest tower among the 4 classes was 39 inches tall!

Balloon-Powered Vehicles

4th graders are automotive engineers!

4th graders collaborated to create vehicles powered only by the air released from a balloon. Our furthest traveling vehicle traveled 115". One of the most notable observations of this unit was the way 4th graders provided feedback to one another on our testing day. The kids were very positive in their approach to helping each other improve their designs! I was impressed to hear comments like, "I know you did your best. Next time, you could try larger wheels." What a community!



Squirrel-Proof Feeders

2nd graders create models of squirrel-proof feeders.

After reading a section of *Those Darn Squirrels* by Adam Rubin, 2nd graders imagined many extremely creative ways to help Old Man Fookwire prevent the squirrels from eating his bird food and destroying his feeders. Then the kids worked in teams to create a model of a squirrel-proof feeder. Finally the students presented their feeders to the class, explaining their designs and material choices. We may have some future private I's in this group, as some feeders were even equipped with security cameras!



Transportation Engineers

3rd graders improve intersections!



3rd graders have been learning about transportation engineering through our reading of *Hikaru's Toy Troubles*. Ask your child how Hikaru and his friends helped the Azuki family solve their problem. Now 3rd graders are studying intersections from the perspective of motorists as well as pedestrians. We're thinking about ways we could improve intersections to make them more efficient and safer. Ask your child what some of his or her suggestions for improvement were!

Thank You for Your Donations!



I wanted to thank all of the families who generously donated supplies to the STEAM lab! It is much appreciated, and some of our projects would not be possible without your donations. From myself, and the children, THANK YOU!!