



Austintown Middle School STEM Newsletter



February 2018

Calendar:

Mar. 6th-7th: AIS STEM Day
Mar. 9th: MAPS Permission Slips Due
Mar. 14th: MAPS Field Trip
Mar. 15th: Sponsorship Forms Due
Mar. 23rd: End of 3rd Nine Weeks
Mar. 26th-2nd: Spring Break



7th and 8th grade STEM students during our field trip to Brilex Industries

Greetings Everyone,

February was another busy month for AMS STEM students. We visited Brilex Industries for a tour of a local manufacturing plant to see firsthand what the application of STEM and engineering looks like. Brilex had fun competitions set up for our students as well as a great tour of their facility. Students also began working in their Soap Box Derby teams in preparation for this year's STEM Gravity Racing Challenge.



On May 19th, our 7th and 8th grade STEM classes will be competing in the annual STEM Gravity Racing Challenge at the historic Derby Downs in Akron Ohio. This will be our 6th year competing in this event!



Brilex Industries set up a measurement competition, where students used calipers to measure parts. Erin won the 8th grade competition.



Brilex made us a plaque to take back with us on a CNC machine.



John, Bella, and Tommy being interviewed by The Vindicator during our field trip to Brilex Industries.

[Read the article here.](#)



We were able to watch the plaque being cut from billet aluminum on a Haus CNC machine using G Code similar to what runs our 3D printers.



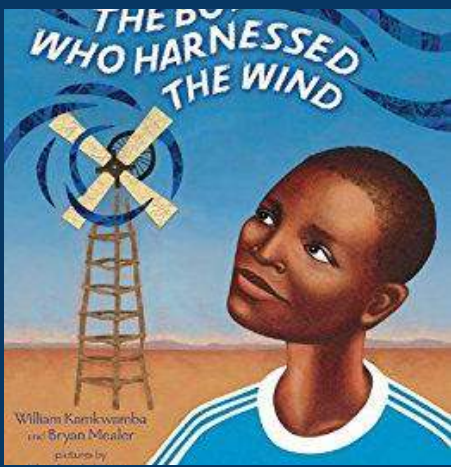
Andrew, Abby, Jake, and Peyden built and programmed the “Freight Elevator” for their First Engineering Job. The elevator was required to move between 3 levels.



Connor and Jack completing a ball bounce lab in science. They needed to drop a ball from various heights and record the bounce height. They also used the drop height and mass of the ball to calculate the gravitational potential energy at each height.



Mini STEM block programmed and CNC cut out of billet aluminum.



7th Graders are reading *The Boy Who Harnessed the Wind* by William Kamkwamba.



Lots of questions during our interesting tour of Brilex.



Students should be keeping up with CAD even on their Chromebooks with cloud-based programs such as [TinkerCAD](https://tinkercad.com/).



STEM students made a good showing at the first Power of the Pen competition with Alivia finishing 2nd overall and Erin finishing 7th!

7th Grade

- ★ In STEM, we concluded the Automation and Robotics unit with the “First Engineering Job” project. Students worked in teams on a specific task with a list of programming requirements that their project had to meet. Each team had a computer engineer, who focused on programming, an electrical engineer, wired motors and sensors, and a mechanical engineer, who was in charge of designing the build for their task. Some of the tasks included “Grandma’s Chair”, “Freight Elevator”, and “Toll Booth”, among others. Students are currently working with their teams on building their Soap Box Derby Cars. They are also designing logos for their teams, creating websites, trying to get sponsors (Sponsorship Forms are due by March 15th), and filming infomercials.
- ★ In Science, we just finished our unit on matter, where students learned about the organization of the periodic table, how to use the information in each block of the table, and facts about some of the elements. Students worked with a partner to identify a mystery element. Then they created an “Element Superhero” whose name and superpowers were based on the element they identified.
- ★ In Language Arts, we are halfway through our Argumentative unit. Students wrote persuasive letter and also recently finished the first

schoolology
learn. together.

Please check out [Schoolology.com](https://www.schoolology.com/) for access to assignments and activities from class. The phone app is also very intuitive.



STEM Pens 2.0.

major argumentative essay of the year.

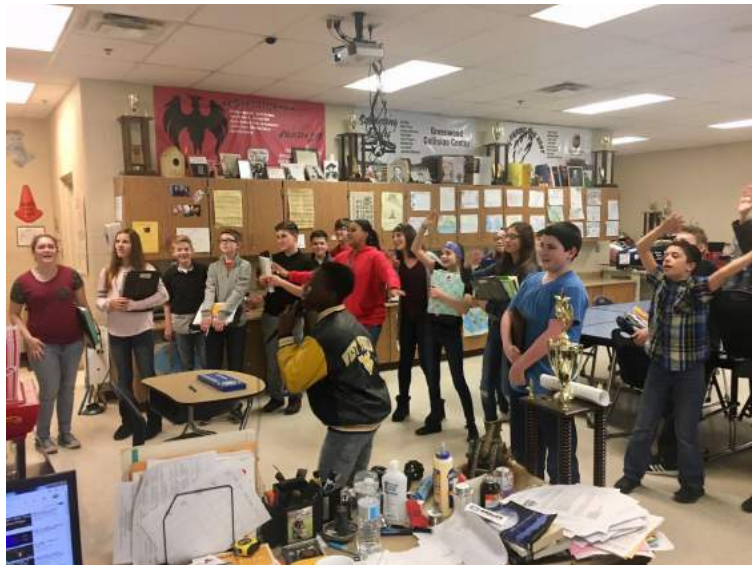
- ★ In Math, we completed Chapter 6, Solving Inequalities and Equations, and we are working to prepare for the Math AIR Test, which will be the week



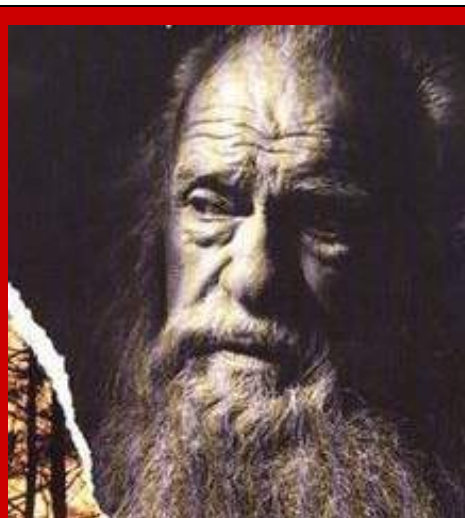
Briana, Alyssa, and Lille designed, built, and programmed "Grandma's Chair" for their First Engineering Job. Their group made Briana the "grandma".



Connor showing off his Browns gear while posing with some parts that will be used in the Atlanta Falcons stadium.



Author sings a pretty mean "I Believe I Can Fly."



8th graders are reading *The Giver*, by Lois Lowry.



Learning the fundamentals of wood-frame construction.



Erin after winning the measurement competition at Brilex Industries.



Pyramid theories are being extensively researched for the 7th graders' first argumentative essays.



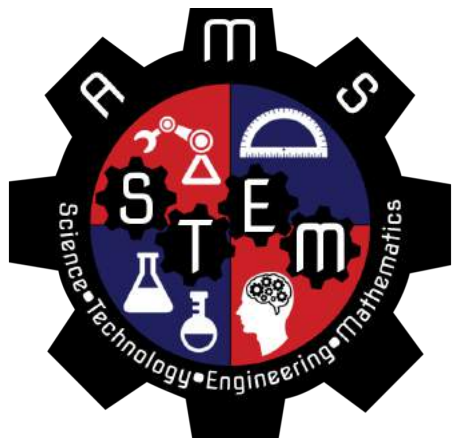
Aaron Burr or Erin Burke?

8th Grade

- ★ 8th grade STEM students are learning about wood frame construction in preparation for building a house using scaled dimensional lumber in class.
- ★ They will finish up the unit within the next week or so and begin on the final project. We will start converting floor plans from paper to the computer using architectural software. All of these skills will be utilized in the final project where the students will be given a budget to buy a plot of land, design, budget, and build a house creating detailed paper and digital floor plans of each level.
- ★ In Language Arts, we are halfway through our Argumentative unit. Students have exercised their First Amendment rights by petitioning the government with a persuasive letter to an elected official and also recently finished the first major argumentative essay of the year.
- ★
- ★ In Science, students did a "Ball Bounce Lab" to finish our potential energy unit. In this lab, students worked in groups to measure the bounce height of a ball as it was dropped from varying heights. They also used the mass of the ball, along with the drop height to calculate the gravitational potential energy and compared them for each set of trials. We started on our Diversity unit and we will be preparing for the Science AIR Test, which will be the week of April 23rd.
- ★ In Math, we completed Chapter 7, Slope and Association, and we are working to prepare for the Math AIR Test, which will be the week of April 30th.



Ryan, Alivia, and Maryn following the blueprints to build a scale model house.



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