



# Austintown Local Schools District STEM Newsletter

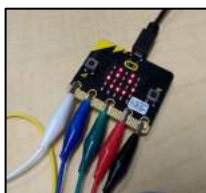


*"We provide an inspiring education that strengthens and prepares our students for unlimited future opportunities."*

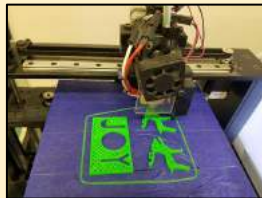
December 2018

## Computer Science for Innovators and Makers Begins this January!

8th grade students will begin this new grant funded PLTW unit next month completing projects blending hardware design and software development. Students will create and program an automatic pill dispenser, make interactive art LED displays, and use conductive ink in a physical computing project displaying touch sensors. This is just the beginning for our Falcons focusing on computer science!



## RINGING IN THE HOLIDAYS "STEM" STYLE



## Students Solving Mysteries in Medical Detectives Unit next Month!

6th and 7th grade students will be real-life detectives as they collect and analyze medical data to diagnose disease in this exciting unit. They will solve mysteries through measuring and interpreting vital signs, dissecting sheep brains, researching and investigating disease outbreaks and focusing on systems of the human body.



## AIS Launch Students Build and Program to Clean Up Oil Spills

Click on the video to hear Mason explain the latest project in the 5th grade robotics "specials" class. Students build and program a VEX IQ robot to tackle a custom designed terrain. The robot has to pick up the colored blocks simulating supplies and avoid the oil spill and other hazards. The focus is on environmental education and computer science programming. Follow "Austintown STEM" on Falcon Nation to see how their robots performed!



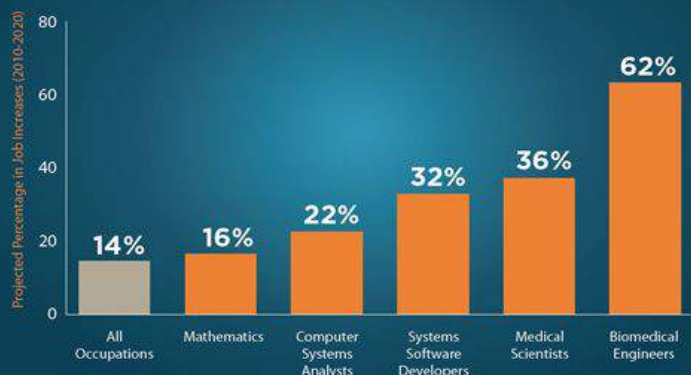
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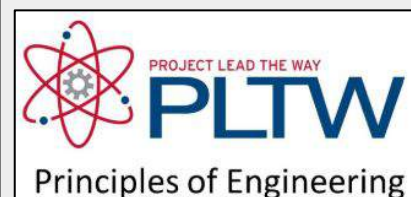
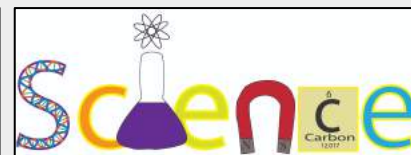
AMS STEM families can order their own Austintown STEM t-shirt. All proceeds go to the AMS STEM Program. Order forms will be sent home soon.

## PROJECTED PERCENTAGE INCREASES IN STEM JOBS: 2010-2020



According to the Bureau of Labor and Statistics, job openings in STEM occupations are projected to increase by 14 percent from 2010-2020 with positions in biomedical, medical scientists, and computer systems leading the pack. Seven out of ten future STEM jobs will be computer science and programming related. Students need a solid foundation in science, technology, engineering, and math to propel them into a future career that is promising and growing in this economy.

Mr. Josh Folkwein is a 2006 Austintown Fitch High School graduate. He played baseball, football, and was within the top 20 in academics among his school classmates. He enjoyed his time while attending Fitch and is proud and an honored to be a teacher at his alma mater. Mr. Folkwein attended YSU and graduated with a degree in Integrated Science Education. He is trained in Project Lead the Way's Principles of Engineering course and plans on receiving training this summer in Digital Electronics. Currently, he coaches the Fitch High School Boy's Golf program. In his spare time he enjoys watching his daughter, Kylie, play softball and dance where she is a national champion. Once a Falcon, always a Falcon. #gostem



Ms. Rachel Kusnic is a 2000 Austintown Fitch High School graduate and STEM aficionado. She has spent over ten years as a chemical analyst at Materials Research Labs in Struthers. It is there she analyzes materials such as hair color products, toothpaste, cement, and anything in need of quality control. She earned a Bachelors of Science in Chemistry from the University of Pittsburgh in 2004 and a Masters of Science degree in Analytical Chemistry in 2007 from Youngstown State University. She believes that you learn from doing, experiencing, and can be found troubleshooting new equipment and analyzing the results. Ms. Kusnic has two sons who can also be found in the lab with her creating tools on the 3D printer for Cub Scouts and solving chemical mysteries. Our Fitch grads are on the move! #onceafalconalwaysafalcon



**The U.S. needs 1 million more STEM professionals over the next decade than it is projected to produce at the current rate.**

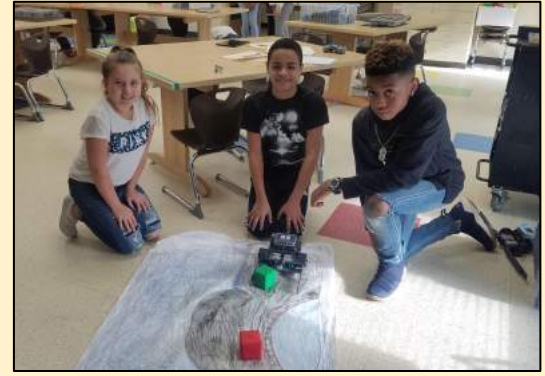
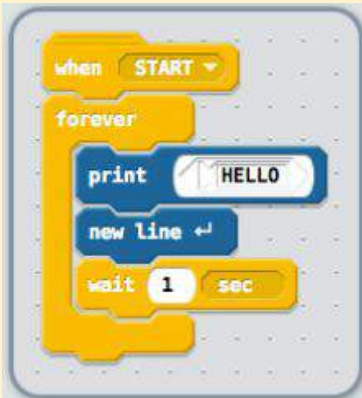


**Of the 20 fastest growing careers, 15 of them require a background in math or science.**

Students in 5th grade began the Project Lead the Way's Launch course. This STEM specials class provides nine weeks of daily instruction in robotics and automation. In addition, students solve a mystery at their school using the scientific method. The focus is on problem solving and teamwork!



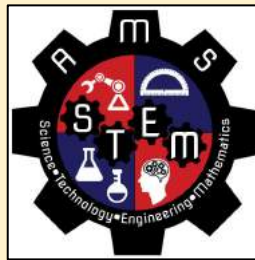
## AUSTINTOWN INTERMEDIATE SCHOOL



AMS Tech Club students showed off their custom made T-shirts. Students have been hard at work building their own modified VEX clawbots and getting ready to learn programming. They will begin learning how to use video recording equipment and editing software. They also have been learning the basics of web design and creating the first AMS Tech Club website. It was created and is maintained by the students. Coming soon...



[Click here](#) to access our YouTube Channel and watch videos from the year.



[Click here](#) to access our class website to see projects from the school year.

Austintown  
Middle School  
STEM website

## AUSTINTOWN MIDDLE SCHOOL

6th grade students completed the Pull Toy Project. Click below to watch the video created by Mr. Eisenbraun. Next students will conclude the Robotics unit with The Survival Challenge! Are you afraid of the apocolapse?



Some common on /off switches include:

|            |  |  |
|------------|--|--|
| Pushbutton |  |  |
| Slide      |  |  |
| Rocker     |  |  |
| Toggle     |  |  |

8th grade students created a Morse code machine and drew circuit schematics while studying electricity in the Magic of Electrons unit. Soon students will create their own inventions and create detailed circuit schematics.

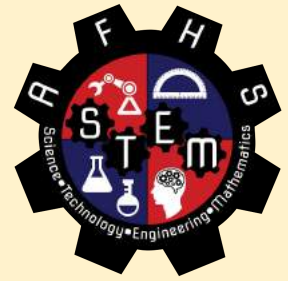
7th grade students finished their pull toy parade showcasing different mechanisms and simple machines. There was no shortage of holiday spirit as many had a holiday theme. [Click here](#) to watch the video created by Mr. Eisenbraun.



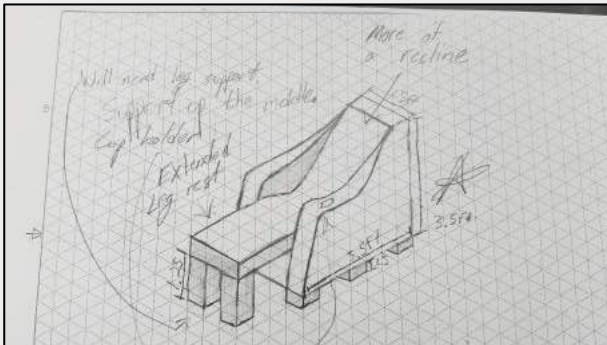
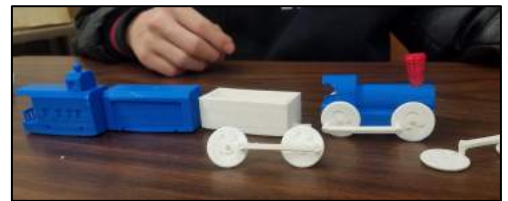
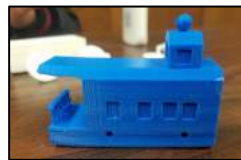
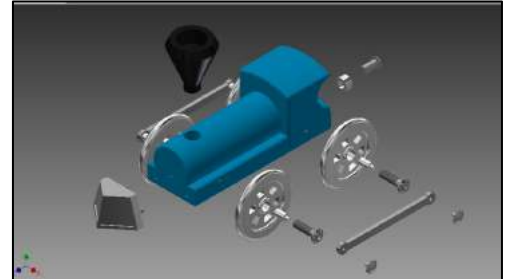


# AUSTINTOWN FITCH HIGH SCHOOL

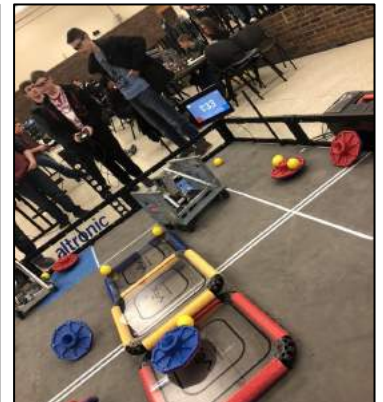
*"We provide an inspiring education that strengthens and prepares our students for unlimited future possibilities."*



Students in the Computer Integrated Manufacturing course are designing, printing, and assembling a toy train using Inventor AutoDesk and our on campus 3D printers. Randy is pictured at right putting together his toy train assembly. This project focuses on the whole additive manufacturing process much like what happens in industry today. On January 8th, team members from the local aluminum extrusion company, Extrudex are coming to Fitch to speak with students regarding careers in the growing field of aluminum extrusion manufacturing. #gostem



Engineering design students, Jeremy, Chad, and Michael display their chair project. Students were to innovate a chair using the design process, 3D modeling software, and create a working prototype. Shown above is their preliminary hand sketches, AutoDesk assembly images, and their working prototype. Great job everyone! Teamwork makes the dream work. #gostem



Fitch STEM students competed at the VEX Mahoning Valley Qualifier at the Mahoning County Career and Technical Center on December 15. The two teams received 11th and 28th place out of over 40 teams. Each competition they continue to improve! [Click here](#) to watch a video demonstrating this year's challenge VEX Robotics Challenge. Pictured at right is Ms. Sroka displaying her holiday spirit.





# Austintown Local Schools STEM Programs

## Meet Our Staff



Chris Berni



Danielle Chine



Doug Eisenbraun



Josh Folkwein



Jason Freudenberg



Lauren Hrusovsky



Ashley Smith



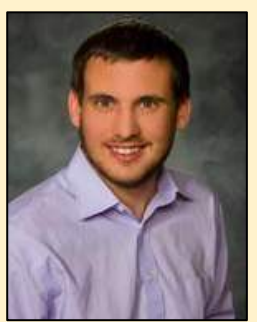
Celia Sroka



Jessica Tomic



Brian Umstead



Robert Wyant



The vision of Austintown Local Schools is to offer a united community with a proud legacy and a progressive approach to education. We prepare our students by providing an inspiring education with a focus on a future of unlimited possibilities. One way of extending progressive educational initiatives is through our many **STEM (Science, Technology, Engineering & Math)** programs and extracurricular activities starting in kindergarten through graduation. These programs provide a project-based and student-centered learning environment with a focus on 21st century skills to give our students skills to ensure success that lasts a lifetime.



For more information contact:

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[Austintown STEM website](http://AustintownSTEMwebsite.org)