

Austintown Fitch High School

STEM Newsletter



May 2017

Calendar

Wed. May 31st- Last day

Sat. June 3th- SAT testing and senior commencement

Sat. June 10th- ACT testing

June 12-23- Camp Inventions Summer Program, AIS, 8-12

Thurs. June 15, 22, 29- STEM students in lab 1-4 pm!

Thurs. July 6, 13, 20, 27- STEM students in lab 1-4

Thurs. Aug. 3, 10- STEM students in lab 1-4 pm!

Mon. Aug. 28th- First day of school for students

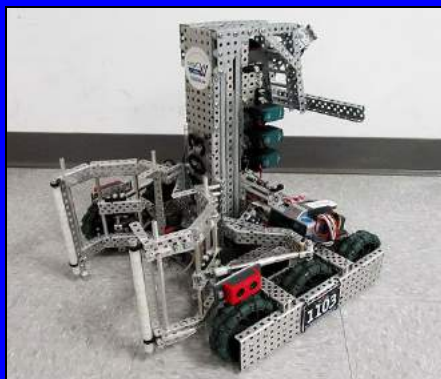


Students captured aerial footage and photos of the weather balloon launch using drones on May 10th. Go Falcons!

Greetings STEM Families,

This is the End of Year Newsletter for the Fitch STEM Program 2016-2017 school year. It was an exciting and engaging year with many activities and events to conclude the first year of the Fitch STEM Pathway. Last month STEM students visited the Warren Water Treatment Facility as part of the Environmental Science course. They toured Materials Research Labs in Struthers and experienced first-hand analytical equipment. Fitch students assisted the middle school STEM students with their annual weather balloon launch. It was a huge success!

This summer the Fitch STEM students will be meeting weekly in the STEM Lab to work on selected projects and prepare for VEX Robotics competition this fall. We are meeting every Thursday from 1-4 pm starting June 15th. All STEM students in incoming grades 9-12 are encouraged to come. No prior experience is necessary. Come ready to learn and bring a smile!



Students will be meeting every Thurs. from 1-4 pm this summer in the STEM Lab to prepare for VEX Robotics Competition.

[Click here](#) to watch a video of next year's game, *In the Zone*!



Robert created and designed his own fidget spinner. It was an engineering challenge getting the exact diameter of the ball bearings. Well done buddy!



Calling all STEM students!

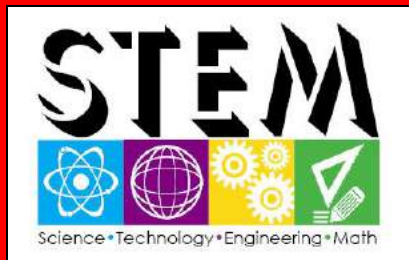
Camp Inventions Summer Program is coming this summer for incoming 1st-5th grade students. We need high school students to mentor these students during the camp. You can receive both community service and NHS hours. **We will be meeting at AIS from June 12-23 (Mon.-Fri.) from 8 am - 12 pm.** Breakfast and lunch are provided and all materials and equipment will be supplied by <http://campinvention.org/>. Attend once or everyday!



Announcing the newest addition to the Fitch STEM Program weighing 22 lbs. 4 oz. and 16 in. long the Ultimaker 3 is going to revolutionize our 3D printing capabilities. Sam and Emily, what do you want to create today?



The Falcon football field was full of flying fun during the weather balloon launch on May 10th. Fitch STEM students and alumni came with their own drones to collect aerial footage of the launch.



STEM rosters have been finalized for the 2017-2018 school year. An email was sent home regarding acceptance for next year. Students participating next year will get an email in early August listing materials needed for class.



10th grade students visited the Warren Water Filtration Facility and witnessed the process of making clean drinking water.



Nathan "Airman" Spalding, STEM alum, came to the weather balloon launch with his own drone. He was inspired years ago from his own STEM experience to start his own business taking aerial photos using drones for real estate companies. He recently got accepted to an aviation school in Florida. Good luck Nathan!



Students experienced chemistry in action while touring the Warren Water Treatment Facility.



STEM alum, Tyler and Dante (top) Carissa, Payton, and Kyle (below) came to the STEM Showcase to support their younger colleagues. Once a STEM student, always a STEM student.



A student drone captured a bird's eye view of the weather balloon launch.



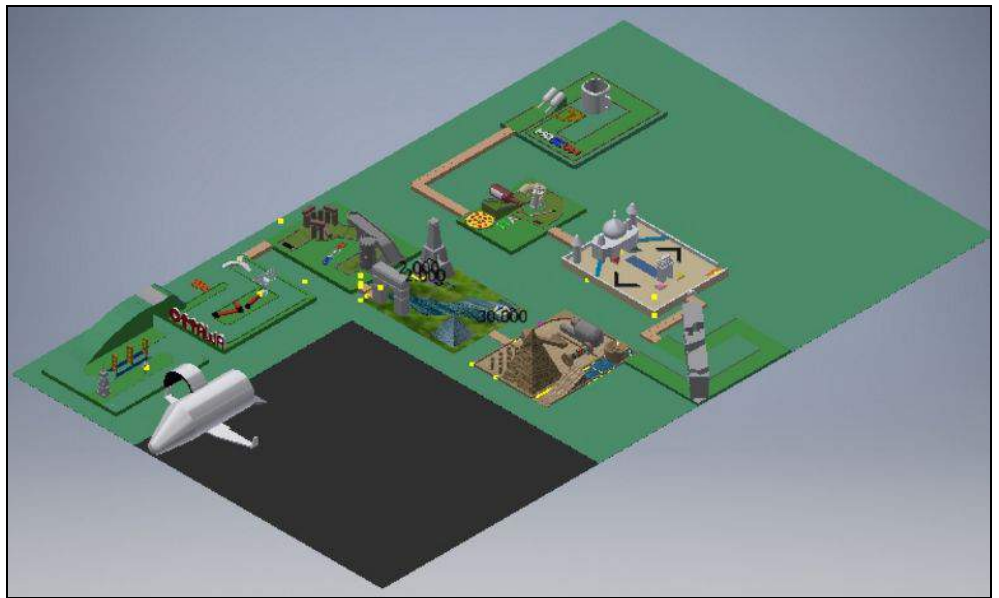
Students collaborated with other students from another district in Ohio, Little Miami, while completing the Virtual Design Project, *A Trip 'round the World*.



Students are mesmerized by a laser cutter while visiting the Choffin Career Center.



The new Fitch STEM Program 3D printer made its first creation. Meet the Ultimaker 3. A Fitch Falcon has been born!



Students worked collaboratively with students from the Little Miami School District to create a virtual golf course. Themes included the apocalypse, Nascar, cities of America, and a trip around the world.



No that is not a radar gun in Sam's hand but a handheld X-Ray Fluorescence Machine designed to perform instant elemental analysis in the field. Students got to see such instrumentation at Materials Research labs on May 11th.

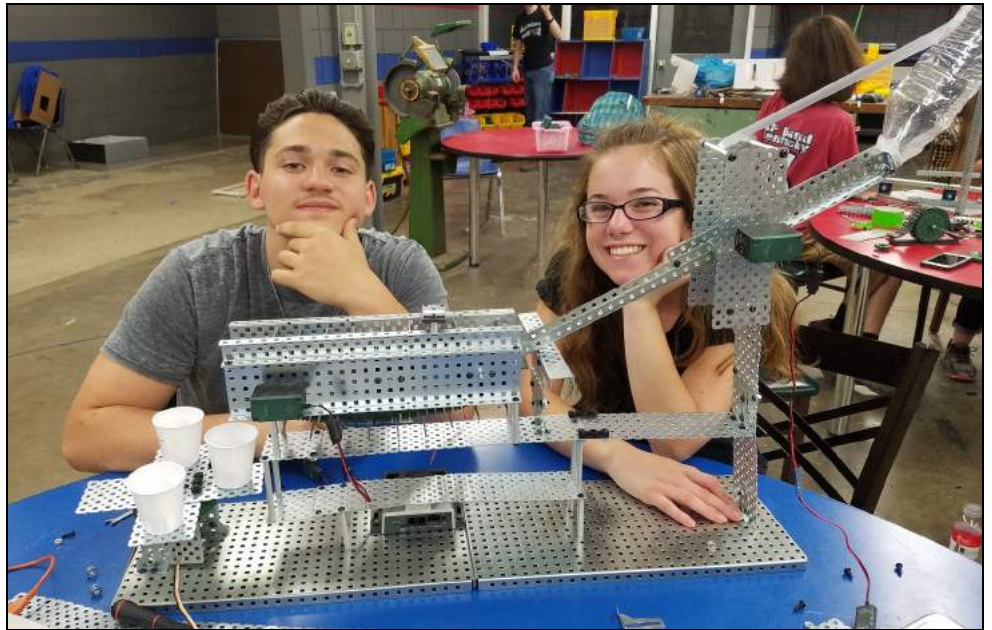
Introduction to Engineering Design

- ★ Students are entrenched in the School Redesign Project where students choose an item or area of our school and redesign it using all of the engineering and design skills they have learned this past year. Some examples include a style redesign of our current school buses, a more ergonomically designed school bus, and a locker organizer.
- ★ Students concluded a Virtual Design Project collaborating with the Little Miami School District to create a complete golf course using all of the computer-aided design skills and engineering techniques they learned throughout the school year.





Keeping STEM traditions alive! Ms. Chine has been growing her aloe plants all year to be gifted to the students who grew the most while participating in the STEM program. We have grown more than 30 plants over the course of five years from just one "mother" plant. What a perfect metaphor for the growth of the STEM Program. Don't forget to nurture your plants as the years go on...



Nick and Sidney pose with their marble sorter.

Principles of Engineering

- ★ Students built an automated machine for the purpose of sorting marbles by color by using a various motors and sensors. They expanded on their computer programming skills via while loops, motor encoders, and many analog and digital sensors.
- ★ Students concluded their repurposing of their shipping container which included a plan for a finding a unique use for up to four shipping containers with a certain budget dependent on student's course grades. They created working drawings, cost analyses, and a presentation of their project.



Sam inserts a sample into an instrument at Materials Research Labs in Struthers.



Students in Mr. Wyant's computer science class created their own game using the Python computer language. Click the link below to play Tic Tac Toe. Hit "Run" at the top and type in a location to place your X. For example, "top left", "bottom right" or "middle". You are coding with Python!

<https://repl.it/H1vP/0>

input 

clear 

```

# #
Location format: top/middle/bottom + left/center/right, eg.
'top left'
Player 1 (X) choose a location: Please start your location
with 'top', 'middle', or 'bottom'
Sorry, your input was invalid. Please try again.
Location format: top/middle/bottom + left/center/right, eg.
'top left'
Player 1 (X) choose a location: Please only use letters of
the alphabet.
Sorry, your input was invalid. Please try again.
Location format: top/middle/bottom + left/center/right, eg.
'top left'
Player 1 (X) choose a location: top
Your input lacked a horizontal location.
Sorry, your input was invalid. Please try again.
Location format: top/middle/bottom + left/center/right, eg.
'top left'
Player 1 (X) choose a location: top left
X # #
# # # # #
# #
# # # # #
# #
Location format: top/middle/bottom + left/center/right, eg.
'top left'
Player 2 (O) choose a location: middle
Your input lacked a horizontal location.
Location format: top/middle/bottom + left/center/right, eg.
'top left'
Player 2 (O) choose a location:

```



Camp Inventions Summer Program is coming this summer for incoming 1st-5th grade students. We need high school students to mentor these students during the camp. You can receive both community service and NHS hours. **We will be meeting at AIS from June 12-23 (Mon.-Fri.) from 8 am - 12 pm.**

Students created a Tic Tac Toe game using Python, the computer programming language. [Click here](#) to play the game.

Computer Integrated Manufacturing

- ★ Students created a business proposal for a unique idea or invention. Included in the detailed proposal was AutoCAD designs, working drawings and a complete presentation explaining the economics of their business. This connected their learning from their studies in the AP Economics course of which they took the AP Exam on May 12th. They will find out in July if they received a score necessary for college credit.
- ★ Students continued their coding and gaming skills using the Python programming language. The Samsung tablets arrived and students will be using those next year to complete the Project Lead the Way Computer Science 1 course.

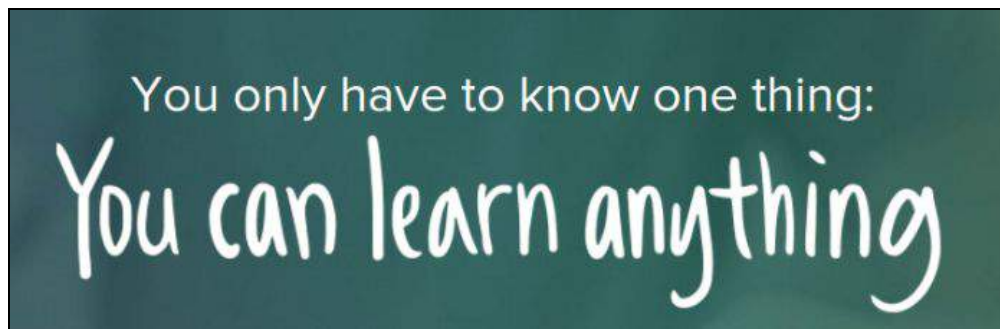


Justin (pictured left), a STEM alum, came to visit on the last day of school. He is currently attending firefighter training and studying public safety.

Computer Science

- ★ The students had to create a project and code it in Python using a variety of lists and functions to create a fully functional game.





Teachers:

Josh Folkwein jfolkwein@austintownschools.org

Celia Sroka csroka@austintownschools.org

Ashley Smith asmith@austintownschools.org

Brian Umstead bumstead@austintownschools.org

Danielle Chine- K-12 STEM Instructional Coach

Email: dchine@austintownschools.org

Austintown Fitch High School

4560 Falcon Dr.

Youngstown, OH 44515

www.austintownschools.org

330-797-3900

[Austintown STEM Website](#)

[AMS STEM Student Website](#)

[Fitch STEM Student Website](#)



