

Austintown Fitch High School

STEM Newsletter



October 2016

Calendar

Nov. 5- SAT Testing

Nov. 8- 9th gr. YSU STEM

College Field Trip

Nov. 9- 2 hr. Early Release

Nov. 11- Veteran's Day Assembly

Nov. 22- Conference Night

Nov. 23-25- Thanksgiving Break

Nov. 30- 10th & 11th gr. YSU

STEM College Field Trip



Ms. Smith poses with the 9th grade STEM students on the field trip to YSU.

Greetings,

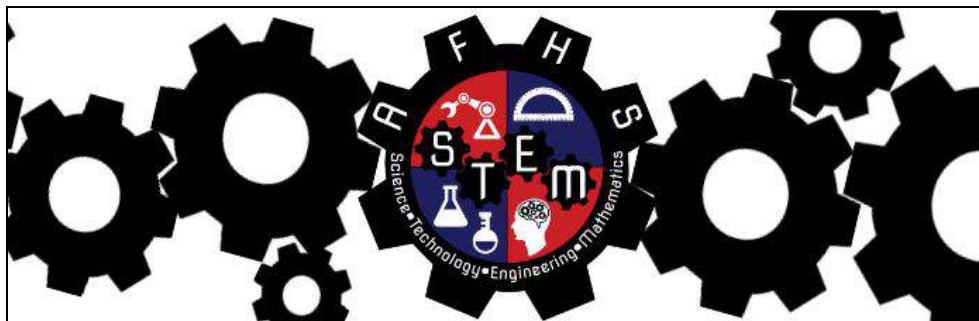
October was a busy month in the Fitch STEM Program. Students saw advanced manufacturing techniques in action at America Makes and Applied Systems Technology Transfer. They witnessed galaxies colliding at the Ward Beecher Planetarium and experienced lunch like a university student at Kilcawley Center. We also commenced the STEM Ambassadors Program where high school STEM students visited 5th graders at AIS during their library time. It was during this time Fitch STEM students taught their younger peers to turn on light bulbs using open and closed circuits, create simple machines, and coding using natural language to automate devices.



Tylor and Walter show some excited 5th graders how to turn on motors and sensors using natural language programming.



Students and parents can access all assignments and projects via Google Classroom and PLTW.org.

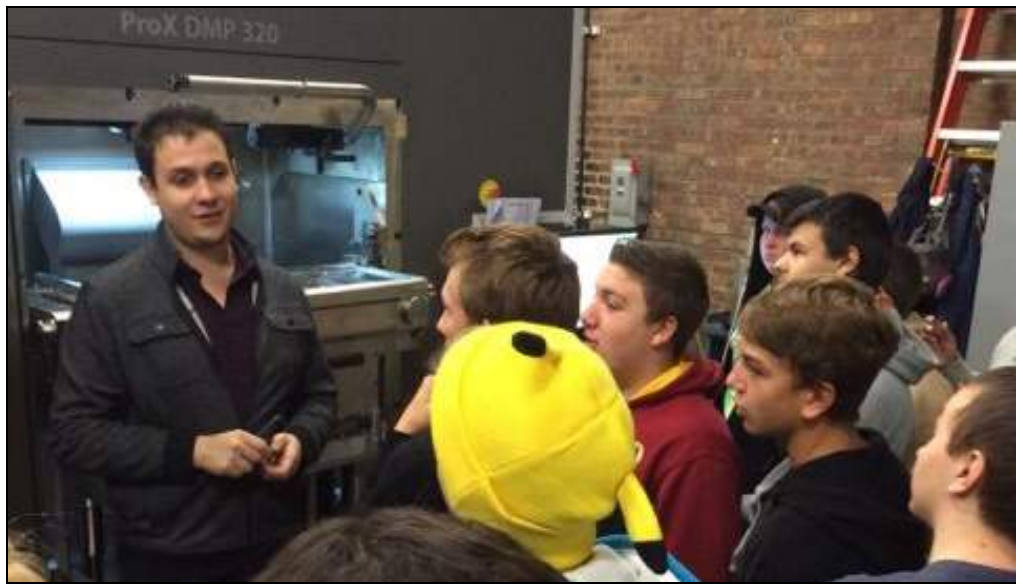


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The Fitch STEM website is currently being built. Please check www.fitchstem.com, shortly.



Dallas instructs AIS students on how to create a closed loop circuit to turn on a light bulb.



Mr. Rodrigo from America Makes informs students on how to attain a career in advanced manufacturing.



Students witnessed galaxies colliding and black holes forming at the Ward Beecher Planetarium.



9th grade STEM students pose in front of the Butler Art Museum this month. Students toured the museum that day.

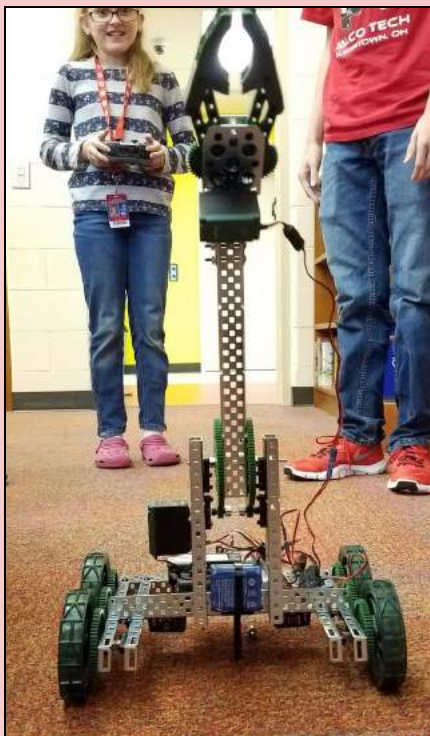


Zachary was all smiles when teaching 5th graders about the basics of circuitry.



Dallas channeled his inner artist when superimposing himself on an image of art from the Butler Art Museum.

Students login to <https://my.pltw.org/> to access the curriculum and most assignments. Check it out!



An AIS student maneuvers the "Clawbot" and learns about manual and automatic controls.



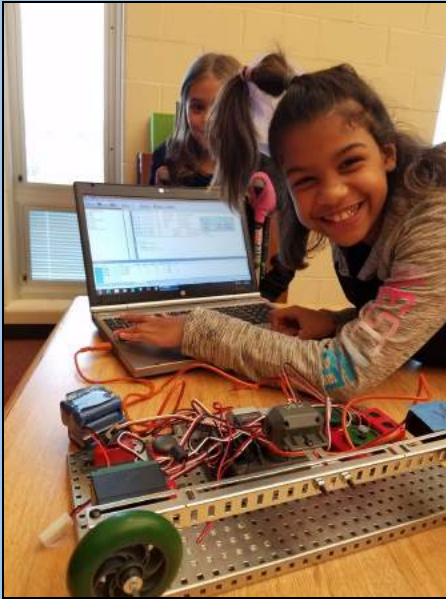
Students at the Ward Beecher Planetarium gaze at the GOTO Chronos, the projector used in the planetarium.



Students entering the lobby of America Makes.

AIS Ambassadors Program

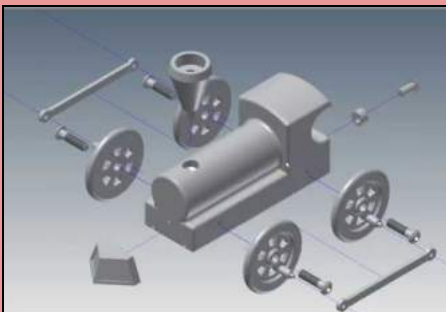
Fitch STEM students at each grade level (9th, 10th, and 11th) visited AIS 5th graders during their library time. They taught basics of circuitry using snap circuit kits, simple and compound machines using Vex kits, and fundamentals of programming using code.org and RobotC. The highest level of understanding is the ability to teach complex concepts simply. Fitch STEM students were able to do just that!



An AIS student learns to use a variant of natural language programming to automate motors and different sensors during the STEM Ambassadors Program.



In the beginning, Jared was all smiles teaching students about compound machines and force.



Students are gaining skills by using additive and subtractive modeling techniques to create and assemble a toy train in AutoDesk Inventor 2016. Students can



Quickly, Jared realized he was out-numbered!

modify their train as long as it fits the track!

2013 Model UN Simulation *Climate Change*

Model UN: Climate Change Edition was created and students, representing different countries, are researching, speech writing, and debating changes necessary to better our environment.



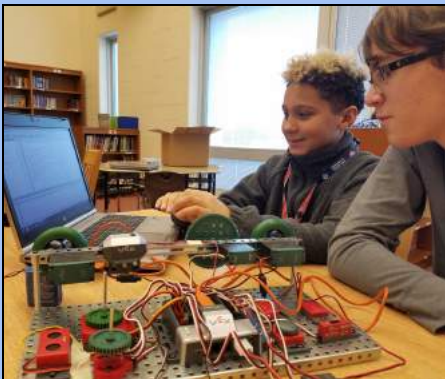
Austin sparked interest in students while teaching them how to program motors, sensors, and LED lights at AIS.



Sam ignited a spark in AIS students while teaching about parallel and series circuits.



Jerell assisted students at AIS with building circuits.



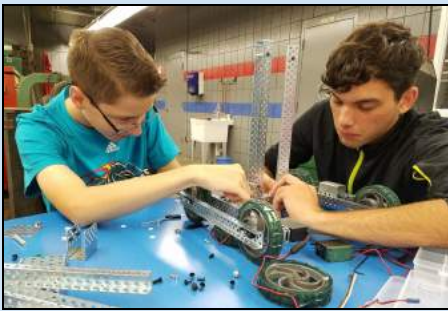
Will watched over an AIS student while teaching him about programming.



Hannah teaches AIS students about different directions of forces and how to increase speed and torque.



Sandro watched contently as AIS students created circuits to power a fan which lifted off the table.



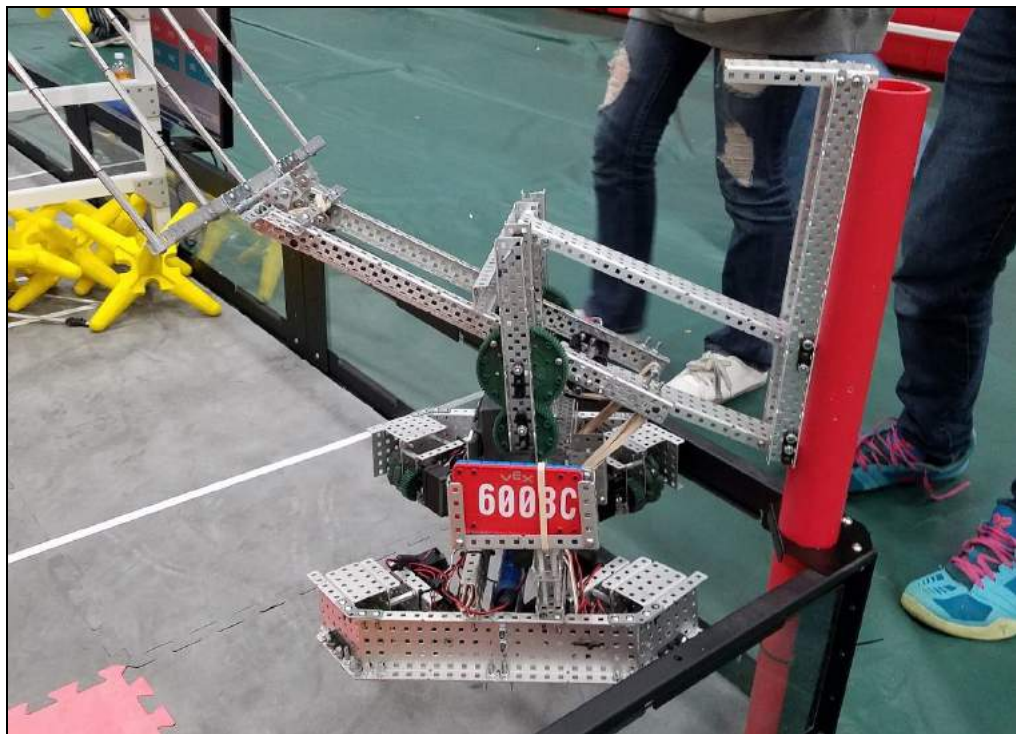
Robert and Joe, members of team *Counter Logic*, begin the build for the VEX Robotics Competition: *Starstruck*.

Introduction to Engineering

- ★ Students used the rules of dimensioning, precision measuring, unit converting, and dimensional analysis to create technical drawings in prelude to using AutoDesk Inventor 2016.
- ★ Students, representing different countries, have joined the Model UN: Climate Change Edition. They are researching, writing speeches, and preparing for debates on creating legislation that betters the environment.
- ★ The VEX Robotics Competition team, *Supernova*, has begun going through the design process in the building of their robot and engineering notebook.



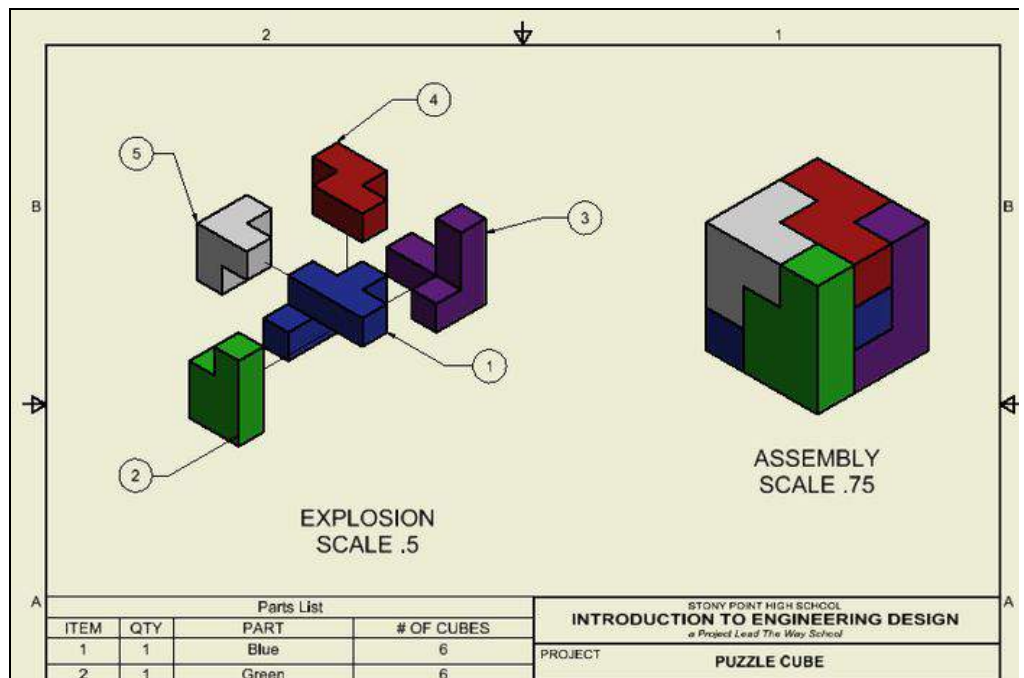
Brandon and Austin showoff their soccer goal they designed which is automated to light up and flicker at a certain speed whenever a ball goes into the goal. Score for you two!



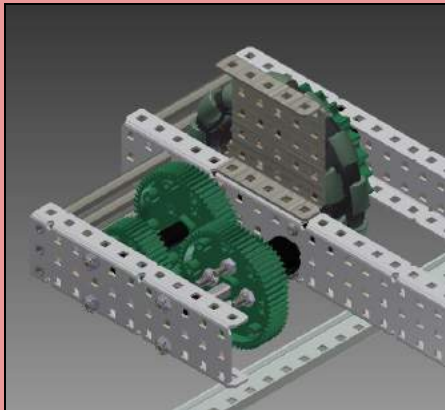
Vex Competition students are currently designing a robot, similar to the one above, that can lift itself off the ground and hang. Stay tuned...



STEM teachers, Ms. Sroka, Mr. Folkwein, and Ms. Chine dress as nerds for Spirit Week. It is cool to be uncool!



IED students are performing statistical analysis and measurement strategies in order to create their own puzzle cube.



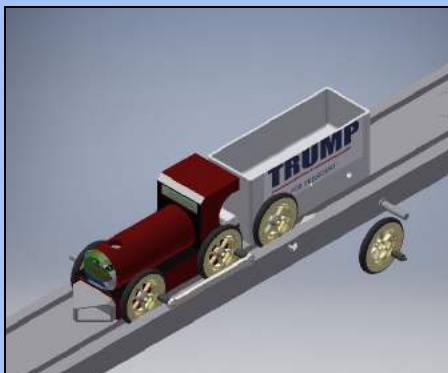
Students in the VEX Robotics Competition began take part files of VEX parts and brainstorming preliminary plans using AutoDesk Inventor 2016. Combining 3D modeling and programming!

Principles of Engineering

- ★ Students are building machines that use open/closed loop control systems, with closed-loop control systems using both digital and analog sensor feedback to make decisions.
- ★ The VEX Robotics Competition team, *Counter Logic*, has begun going through the design process in the building of their robot and engineering notebook.



10th grade students prepare their simple and compound machines before going to AIS.



Walter redesigned the model train in AutoDesk while learning assembly constraints and dimensioning. He added his own

personal touches.



Jackson shows his version of the Roomba. A robot with many touch sensors programmed to move in the opposite direction when a sensor is hit.



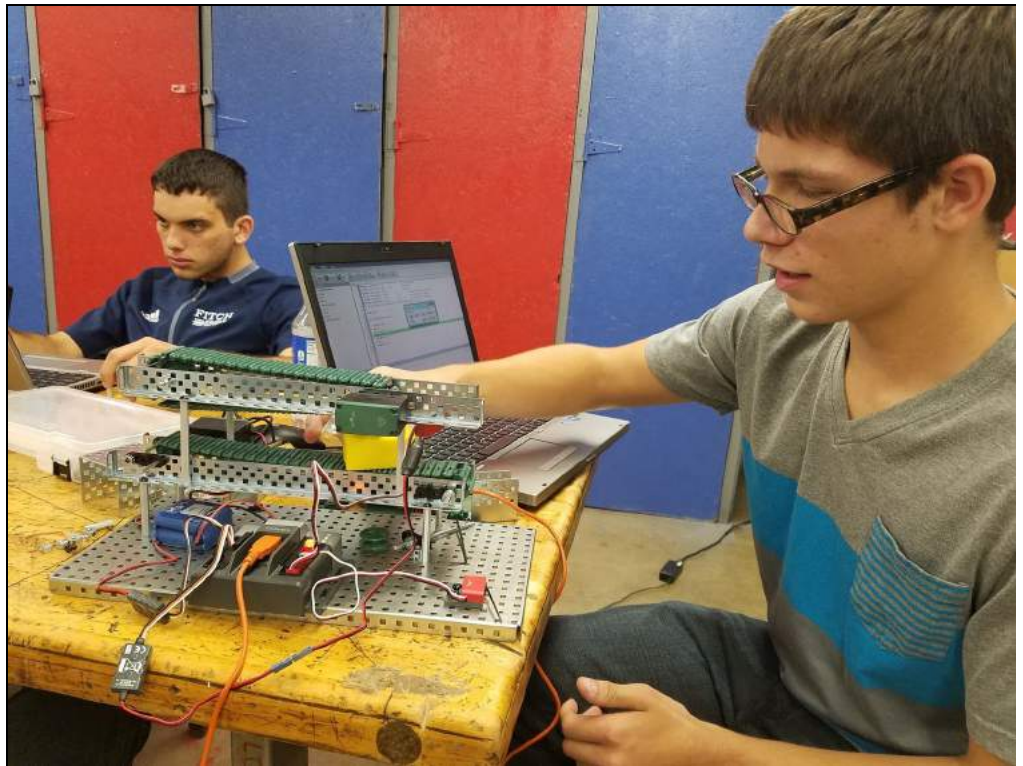
Chad and Marcellena designed the pocket protector and Fitch STEM logo for the T-shirts. Order forms were sent home.

Computer Integrated Manufacturing

- ★ The VEX Robotics Competition team, *Supernova*, has begun going through the design process in the building of their robot and engineering notebook.
- ★ Students are building machines that use open/closed loop control systems, with closed-loop control systems using both digital and analog sensor feedback to make decisions.
- ★ Students are creating part and assembly files in AutoDesk Inventor 2016 in preparation for VEX competition and for prior learning required for future CIM modules.



Charles and Cedric teach AIS students the basics of simple machines and how to build them using screws, nuts, wrenches, and various types of screwdrivers..



Walter and Tylor created a conveyor belt with sensors and motors with the directive of putting chocolate chips on cookies.

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[Austintown STEM Website](#)

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