

AMS STEM *January Newsletter*



January Edition

Calendar

Thurs., January 28

Jr. STEM meeting

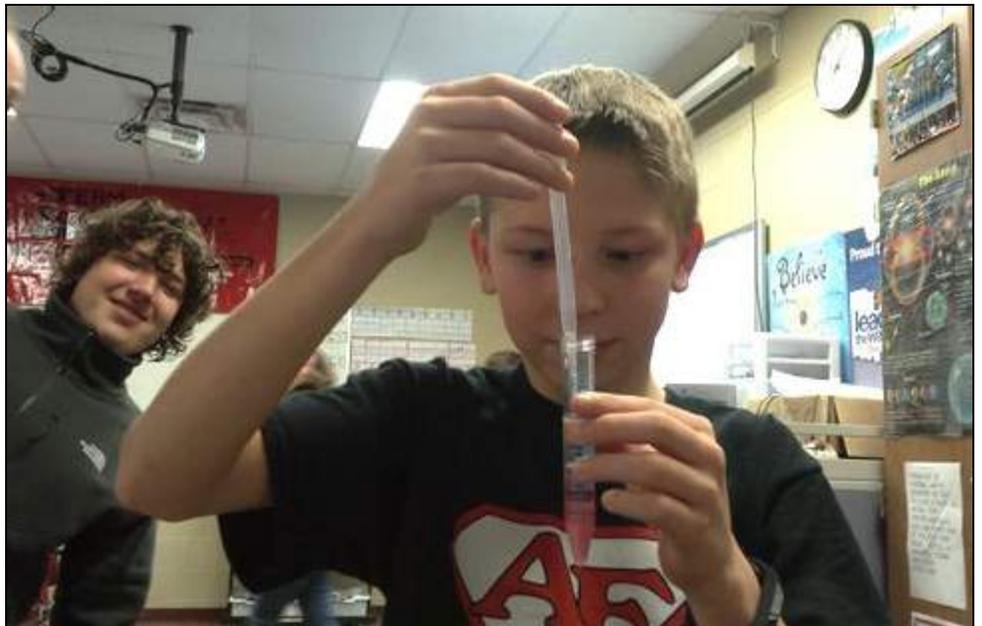
Thurs., February 11 Parent and Teacher conferences

Fri., February 12- No School

Mon., February 15- No School for President's Day

Sat., April 23- Cleveland Soap Box Derby Race

Sat., May 14- Akron Soap Box Derby Race



Payton smiles in the background while Chase fiercely concentrates on separating his DNA strands from the top layer of solution.

Hello Everyone,

This is your STEM Parent Update for the month of January! It was great to come back from Christmas and hit the ground running. There are a few important announcements. Firstly, parent-teacher conferences will be held on Thursday, Feb. 11 from 3-9 pm in C202, Mr. Freudenberg's room. It is first come, first serve. Secondly, building for the Soap Box Derby has begun and students are very busy constructing the cars and beginning the optional educational contests, such as the infomercial and press release. Students will continue to work on the cars and optional contests in the next few weeks along with other STEM projects to prepare for the races on April 23rd in Cleveland and May 14th in Akron.

Parent-Teacher
Conferences



Please use the link below or the one sent to your email if you would like to schedule a conference. They will be held Thurs. Feb. 11 from 3-9 pm in Room C202.

[Click here to schedule.](#)



Congratulations to Matthew Smutny on winning the Annual AMS School Spelling Bee. He wishes to remain faceless while his Honorary STEM pen haunts him.



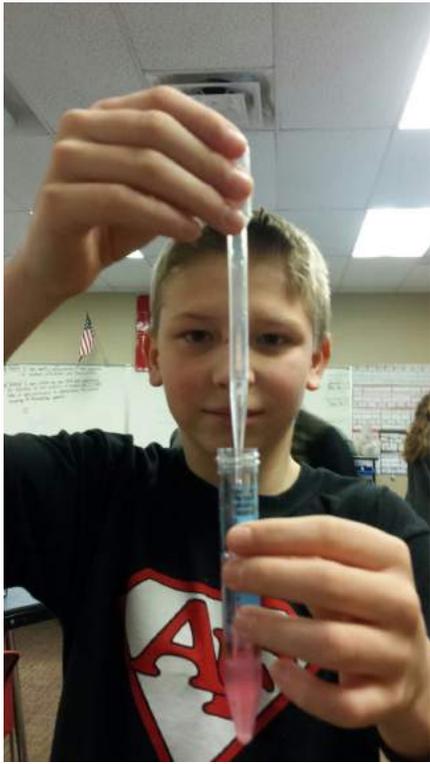
Cameron, Mia, Brianna, Alexis, and Jamie participated along with other AMS students at the Power of the Pen competition at Canfield Middle School on January 23rd. They did a phenomenal job winning second place overall for 7th grade with many students placing and receiving trophies.

7th Grade

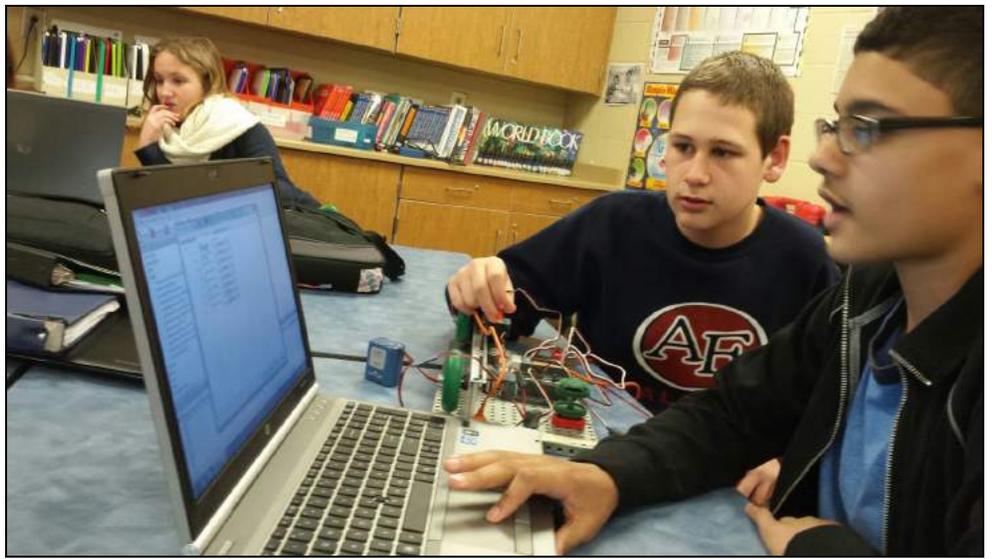
- ★ This month students built various machines and put motors and sensors on and began programming using a program called RobotC which is similar to natural language programming. Students learned the differences between analog and digital sensors and how to program motors and various types of sensors. They will use these newly acquired skills to master their “First Engineering Job (because you can’t live at home forever).”
- ★ Planning for the Soap Box Derby has begun. Students are organized into teams as they are designing their team name and logo. Every team member is given a job. Students have started the optional contests of creating an infomercial, making a press release and entering the photography contest. They are documenting their process as well. The building of the three cars has begun for the upcoming races on April 23rd in Cleveland and May 14th in Akron. Check out the class website amsstem.com for updates and building progress.
- ★ Students are “Moving Straight Ahead” in math as they explore linear relationships. The focus is on understanding proportional relationships to solve real-world math problems and solving increasingly complex equations.



Brianna and Carissa use a micropipette to isolate their DNA and put into a necklace during the DNA extraction lab.



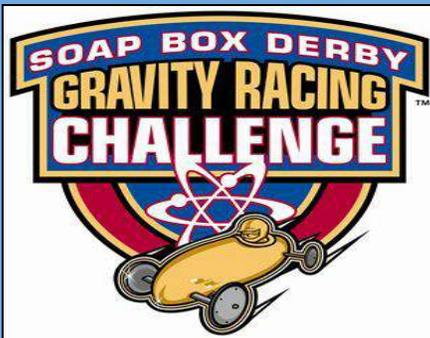
Chase extracts his DNA from a test tube using red Gatorade, cold ethanol and a mild soap solution.



Jacob and Cameron troubleshoot their program while learning to use natural language programming .



Gabby reviews her programming and coding skills.



Students are still accepting sponsorship forms for the Soap Box Derby STEM Gravity Racing Challenge. A sponsorship form is included at the end of this newsletter. Please consider sponsoring our students!



Isabella and Omaree prepare to sand the rust off of the axles. They have gloves and eye protection. Don't forget to put newspaper down!



Zane tightens a bolt while adjusting the front axle on his Soap Box Derby car.



Geno demonstrates how to properly sand the rust off the axles and the differences in grit among various types of sandpaper.



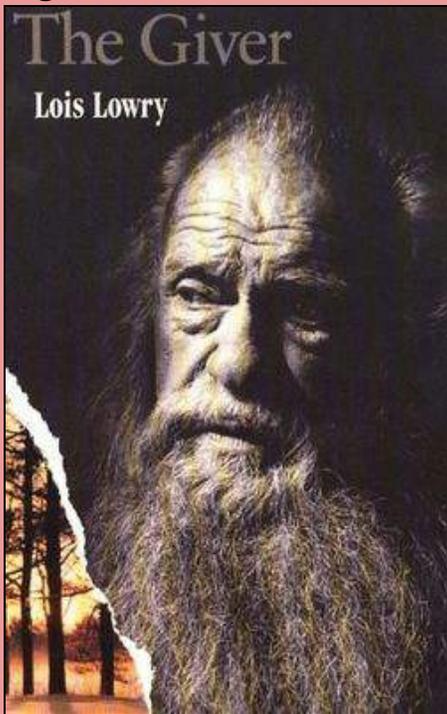
Isaac assists Joey and Logan in their confusion on putting the axles on their Soap Box Derby car.



Sydney, Colin, and Cally use the instruction manual and supportive videos to assist in the build of their derby car.

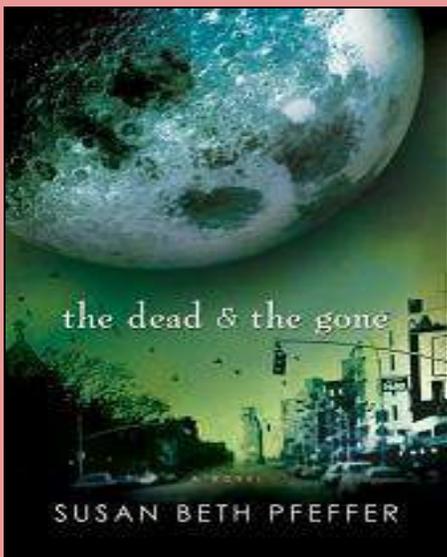
Reading In STEM

Eighth Grade:



8th graders are beginning to read the novel, *The Giver*, by Lois Lowry.

Seventh Grade:



7th graders will be starting *The Dead and the Gone*, Susan Pfeffer's companion novel to *Life as we Knew it*.



Kylee, Zane, and Connor collaborate on a Google document while writing the script for their infomercial documenting their learned experiences participating in the Soap Box Derby.

8th Grade

- ★ We finished up the final Magic of Electrons final projects, and we are now moving ahead in our next STEM Module, Green Architecture.

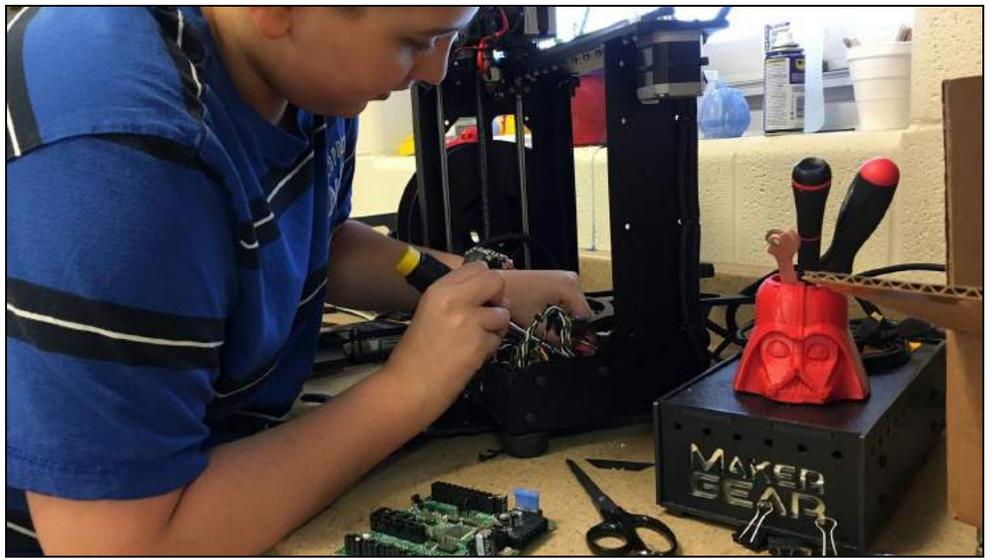


- ★ The students will be learning how to measure, scale, estimate materials, design floor plans on paper as well as using professional architectural software, and also building a 3D scaled model of a building in class using scaled dimensional lumber. ****If you can send in a tape measure with your child for class use that would help out.
- ★ Students are learning about Mendelian genetics and heredity in Science. Students have been studying the genetics of various diseases such as hemophilia and color-blindness. They also isolated their own DNA and encapsulated their unique genetic information into a necklace.



8th grader, Jamie Knutti, maintains proper form while waiting to race down the track at the STEM Gravity Racing Challenge last year. For details on building the cars and participating in the optional contests click below.

[Soap Box Derby Building and Optional Contests Info](#)



Robbie puts the bed back on the 3D printer after replacing a broken circuit board. Great job buddy we knew you could do it!



An 8th grade student shows their DNA they isolated into a necklace by using a mild soap solution to break the membranes of cheek cells and expose the stringy DNA. It was then extracted using cold ethanol.



Mrs. Chine's dog, Jane, was often referenced in class as an excellent example of artificial selection in the creation of dog breeds for certain traits. In the case of Jane, the English bulldog, she was bred for cuteness and laziness, which is very apparent in the picture.

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Austintown Middle School STEM

Soap Box Derby

Team Sponsorship Form



The 7th and 8th Grade Austintown Middle School STEM class will be participating in the 2016 STEM Soap Box Derby Gravity Racing Challenge (GRC) at Derby Downs in Akron Ohio. The GRC is an extension of learning that allows us to apply the core fundamentals of Science, Technology, Engineering, and Math while bringing the classroom to the track. The money we raise is essential for funding the cars, shirts, travel, and registration fees for our six teams.

| Commitment Level | Recognition |
|---|---|
| <i>Friend of the Team</i> \$20-\$49 | Your Name/Company will be displayed on our team banner as well as our class website. |
| <i>Contributor</i> \$50-\$199 | Your Name/Company will be displayed on our team banner, team shirts, and class website. |
| <i>Sponsor</i> \$200-\$499+ | Your Name/Company will be displayed (Small to Medium) on the race car as well as our team banner, team shirts, and class website. |
| <i>Primary Car Sponsor</i> \$500+ | Your Name/Company will be displayed (Large) on the race car as well as our team banner, team shirts, and class website. |

I wish to sponsor the Austintown Middle School STEM Gravity Racing Soap Box Derby team for the 2016 competition. I am enclosing the sponsorship fee of \$_____ for the level of _____.

Business/Supporter

Name: _____

Contact Phone: _____

Email: _____

Address: _____

City: _____ State: _____ Zip: _____

Contact Name: _____

Signature: _____

Make checks payable to:
Austintown School District-STEM

Send forms to:

**Attn: Barb Kliner, Board Office
Austintown Local Schools
700 S. Raccoon Rd.
Austintown, OH 44515**

The International Soap Box Derby is hosting the Gravity Racing Challenge race Sat. May 14 at the Derby Downs Track. We hope to see you there! Keep up with our progress by visiting our class website: AMSSTEM.COM

*More information call: 330-797-3900 ext. 2230.