Eaton Young Manufacturers Academy, February 2019

This year's *Eaton Young Manufacturers Academy* and *Winter at the Races* was a great success! Forty students participated, which included 18 girls from our Girls in Mfg Clubs (and some possible new members!) The 2019 Winter YMA included STEAM activities, building a wind turbine, constructing a generator, creating group badges with electric thread, making a potato battery, assembling a race car - all while working together as a team! The Young Manufacturers learned about safety in the workplace, iterative design, friction, the 5 whys, trouble shooting, circuitry, the engineering design process, energy, persistence, teamwork, and making new friends. Thank you to all of the area manufacturers, teachers, volunteers, Jamestown Community College, and Eaton for a terrific week!

Each day began with an ice-breaker/STEM activity with Kathleen Martel and Barb Hewitt, where students worked in teams to meet new people and develop new friendships. Monday was STEAM Day, where Dan Brown and Amanda Burdick, two local art teachers, worked with students to demonstrate the connections and relationship between STEM and Art.

On Tuesday, students were able to start creating their cars in teams of four, working collaboratively to design their vehicles with only a few materials – cardboard, wood, duct-tape, rope and, this year, three wheels! With the help of the R&D team from SolEpoxy, students learned about iterative design, the engineering design process, and friction. Since this year's theme was energy, students also worked with Darlene Connelly to develop a motor-powered windmill to create and measure energy.

Safety is of utmost importance at our local manufacturing facilities. Dan Pikulski of Cutco came in to speak to the students about safety in the workplace and also safety during the Young Manufacturers Academy. Mr. Pikulski helped to cut some of the wood, demonstrating some safety tips that will be helpful to all in the future. Another part of the day was spent with a team from CA-BOCES, working on e-textiles. After designing a logo, students used conductive thread, LEDs, batteries, felt, and pins to create a badge for their upcoming car race at the end of the week. Students explored the differences between parallel and series circuits

Each year, a team from Dresser-Rand, A Siemens Business, has visited the Young Manufacturers Academy to demonstrate the 5-Whys, problem solving, and troubleshooting. This has proven extremely valuable at this time of the week, as the students are now finishing off their cars and are ready to test the speed and strength of their vehicles. Students realize that this is what an engineer does every day – solves problems and comes up with solutions. Jeremy Martin from NES had an exciting activity this year – creating a potato battery. Students used galvanized nails, copper nails, alligator leads and clips, LEDs and a voltmeter to measure the energy generated by their potato battery. The fun began when they joined the potatoes together! True collaboration!

Start your engines!! On our final day of the Eaton Young Manufacturers Academy, students spent the morning testing their cars and preparing for the final race. Students also worked with their teams to create a video, selling their car as “The Best!” Parents, grandparents, sisters, and brothers came for the final race, watched the videos, and waited for the final scores. Everyone did a terrific job and the winning team was Winter Warriors! Thank you again to the students, parents, teachers, manufacturers, Jamestown Community College, and Eaton.

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MAST MANUFACTURERS ASSOCIATION OF THE SOUTHERN TIER

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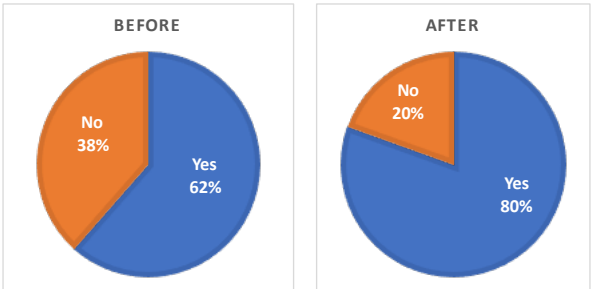
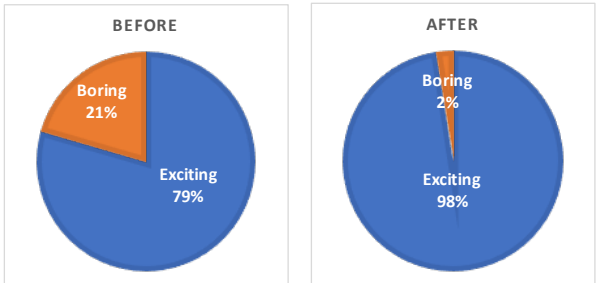
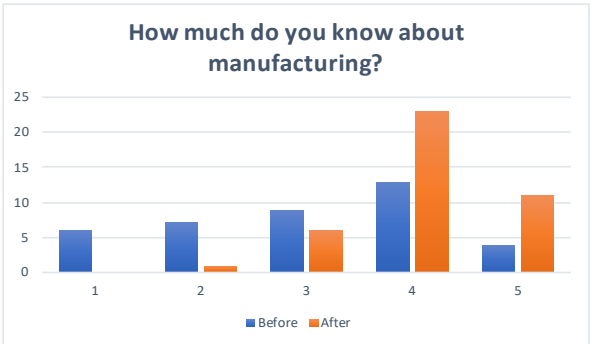
Would you consider a career in manufacturing?

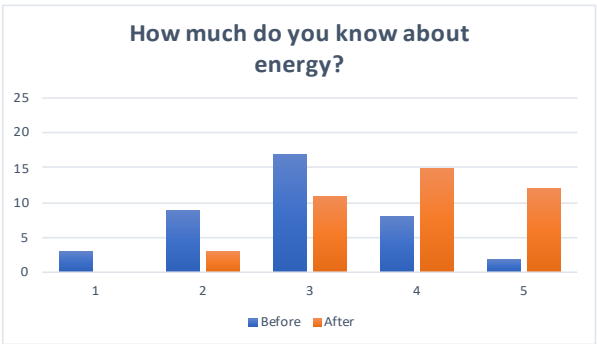


Eaton YMA February 2019

Is manufacturing boring and dangerous or is it exciting and safe?







When asked the question, "What did you enjoy most about this week?", students had the following responses:

Building a three wheeled car. That was great!

Being here. I had a lot of fun.

Learning about the wind turbine and energy.

Building the car and doing the little projects.

Making cars/racing cars and making circuits.

Potato batteries and cars.

When we made the potato battery.

Everything!!!

Making the windmills and generators.
Working with my team to build our car and making things to create energy.

The card game and the car.
Working with my team and making the car and making different things.

Building the cars as a team and meeting others.

Doing all of the fun experiments.

Making the potato battery and seeing a 3D printer in action.

Making the cars and making the generator.

I really enjoyed working with my team.

Building the car because it was fun to design them.
Designing and creating our vehicles.

Students would like to thank the following:

All the people who taught me about manufacturing.

The DIDI team and Eaton for having this camp available to learn.
Thank you to all the teachers for taking time out of their life to teach us about manufacturing and energy

Thank you teachers and Eaton for making this week amazing

Everyone for letting this happen. It was so fun. I liked it a lot.

Everyone who came in for volunteering their time to help us out.

Mr. Martin for showing me more about energy.

JCC for having this little college for all kids of all ages.

Thank you for a very fun break everyone
Thank you all teachers for helping us learn more about manufacturing .
Everybody for doing these fun projects and teaching us problem solving, engineering and working in a team.

The DIDI squad who put this all together.
Thank you everyone for helping us learn more about manufacturing.

Thank you Mr. Martin for cool energy lessons.

Thank you to Mrs. Harris for watching us throughout the day.

Thanks for teaching me this. Everyone was great.
All staff and presenters for showing me the manufacturing process and energy.
Thank you for helping my parents pay for this.
(Thank you, Eaton!!)

To all of the staff and volunteers who made this awesome.