



# CLEVELAND CITY SCHOOLS CAREER & TECHNICAL EDUCATION

## NEWSLETTER

October 2023 - November 2023

### Advanced Manufacturing

In the 2022-23 school year, Cleveland City Schools received a grant which allowed us to purchase equipment and add Advanced Manufacturing to our CTE offerings at Cleveland Middle School. They are the first middle school in Eastern Tennessee to have this program available at the middle school level.

This course covers manufacturing and fabrication. Students will learn introductory welding on virtual welding machines, manufacturing automation, CNC (computer numerical control) machining. They will learn the proper safety procedures to set up and operate Machine Tools. It is a great introduction to the opportunities they will have to advance their skills at the High School level.

Shawn Williams is the Advanced Manufacturing instructor with over 30 years of experience. During his career, he was able to become NIMS Certified, OSHA 10 Certified, and Precision Measuring Certified. He has a passion for teaching and has high hopes for this new program. He said, "Industries today are looking for individuals who are prepared to work safely and are ready to work as a team to complete a job successfully." His plan for this program is to offer additional levels that give students advanced opportunities to further their education in Automation and CNC Milling.



Cleveland Middle School's New Advanced Manufacturing Instructor, Shawn Williams

Shawn graduated from Bradley Central High School in 1991 where he was introduced to Machine Tool Technology by taking CTE courses in 10-12<sup>th</sup> grades. Shawn went on to Chattanooga State and went on to work in North Georgia, Chattanooga, Cleveland, and Middle Tennessee. Beginning in 2003, he had the opportunity to teach at Cleveland High School and obtained his teaching license from Lincoln Memorial University. After marrying his wife in 2004, he had an opportunity to move and work in Middle Tennessee.

In the fall of 2008, they returned to Cleveland where he began teaching at Bradley Central High School. He spent the next 13 years as part of the CTE department teaching students Precision Machining where they were given great opportunities to continue their education or work in the manufacturing skill set. He returned to the industry but after about a year and half, the opportunity to teach at Cleveland Middle School was offered to him and he decided to return to his passion and where he feels he needs to be.

To learn more about CTE, follow us on Twitter [@ccscte](#), or visit our website [www.clevelandschools.org](http://www.clevelandschools.org).



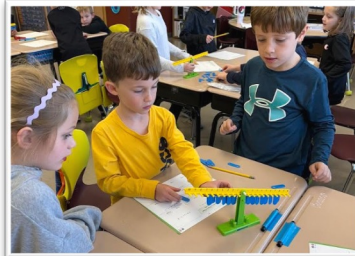
## Arnold Elementary School

First grade transformed their classrooms into operating rooms. They completed a unit on the human body and bodily systems and operated on their "patients".



## Blythe-Bower Elementary

After reading the book "The Candy Corn Project", students used 21st Century Learning Skills and the Bobcat Steps to Design Thinking to work with peers to create the tallest structure with toothpicks and candy corn.



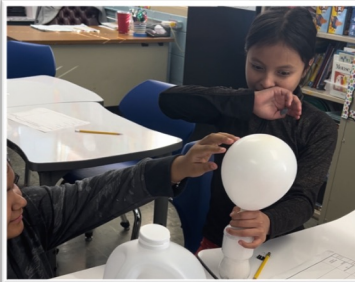
## Candy's Creek Cherokee Elementary School

First grade students used balance scales to make a model of addition math.



## E.L. Ross Elementary

Ross students have taken over production of our Morning Message Videos. Teams of students have taken turns writing, recording, and editing segments of the daily news. They have interviewed experts, researched topics of interest, and shared entertaining facts.



## George R. Stuart Elementary

Fifth graders have been learning chemistry standards using hands-on experiments like baking soda balloons, color change mystery pitcher, and mini elephant toothpaste. Students make observations to find evidence of a chemical reaction.



## Mayfield Elementary

The third grade had great fun creating marble mazes. While working with a partner, they followed The Engineering Design Process, and drew their plan. Next, they created their maze and tested it out. Some had to redesign a few areas that did not work but fixed them with ease.



## Yates Primary

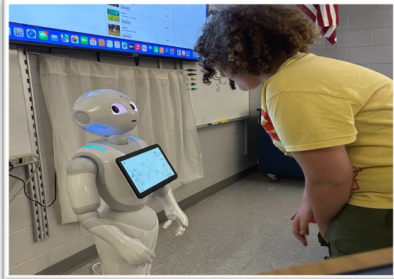
Yates families were given the opportunity to participate in a Home Stem Challenge. Engineers from Wacker and other industries came to judge the bridges. Students followed the design process to make some creative and well-designed bridges.

## CMS BUSINESS & COMPUTER SCIENCE



### Local Business

The owner operator of Sweet Caroline Cheesecakes came and spoke to the business communications students about the daily life of a small business owner in our town.



### Meeting Robots

Another nine week rotations of CTE courses has started so that means another new group of students get to meet Pepper, the AI robot. They had a blast asking questions and playing games with Pepper.

## CMS DIGITAL MEDIA



### Digital Media

The students in Digital Media classes get to learn how to use programs like Canva, iMovie, Capcut and Google Slides to present their "About Me" projects.



### Learning Techniques

Digital Media students are learning some podcast techniques like interview skills and production skills.

## CMS ENGINEERING



### Out of the Box Thinking

Students have been tasked with making paper towers. In the process, they find out which materials make or break the job.



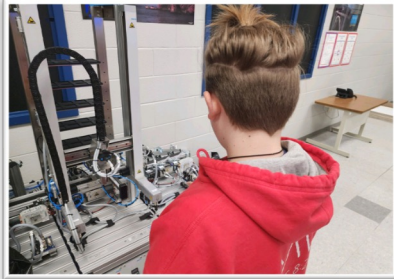
### Programming

Tennessee Tech engineering students came to talk with the middle school students. They brought robots for the students to use and taught them how to program them.



## Skills Check

Advanced Manufacturing students are learning about measurement and welding skills and how they go hand in hand.



## Learning New Skills

Students have the opportunity to learn about automation processes using the Modular Production System (MPS).



## Life Skills

Medical Science students learned hands only CPR and AED use. Both are great life skills to know!



## Guest Speaker

Medical and Health Science students got to listen to guest speakers that spoke on vaping and the effects of drugs.



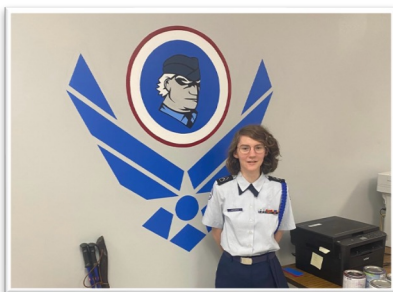
## Recruit

Cadets went to Cleveland Middle School to talk with students about their involvement in AFJROTC and recruit students who might be interested in being involved while in high school.



## The Colors

At the Cleveland-Bradley football game, the cadets had a 10 cadet Color Guard to represent all the branches of the military.



## Competition

This mural was designed and completed by Cadet Nicholas. She was tasked with coming up with a design that incorporated the Raider mascot and the Air Force. She did a wonderful job!



## Hands On Experience

Automotive students had the opportunity to tour KOMAT'SU Chattanooga. They learned about post-secondary job opportunities in automotive, robotics, and welding while exploring their 68-acre plant full of excavators, dump trucks, and forestry machinery.



## Learning Processes

Automotive students learned about proper battery maintenance, battery removal, and battery installation.



## Advanced Opportunities

The automotive classes had a guest speaker from Lincoln Technical College, Nashville campus, present to them post-secondary opportunities in automotive, diesel, and welding.



## Flight Check

Aviation 3 students get the drones ready for use by checking batteries and making sure all the parts are in working order.



## Career Path

Aviation students used paper airplanes outside to see how the CG, center of gravity, impacts it's flight path.



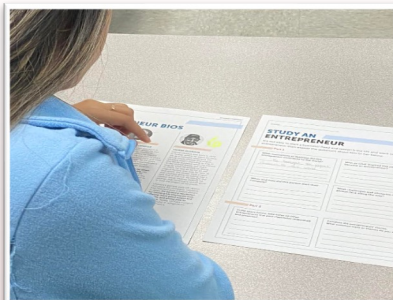
## Tango Flight

Tango Flight students are enjoying the new space for the Tango Flight workshop and the work on the plane is progressing well with our community mentors help.



## Planning

One vital factor to a successful business is having a plan. Students formatted their ideas into an investor ready business plan. They demonstrated their abilities to present their team focused goals as they learned how to run, operate and structure their new business.



## Research

Business students found out how much work it takes to have a successful business. They studied various entrepreneur's and how they became a success.



## Giving Back

CHS Future Business Leaders and Business Academy students are preparing to give back to their community by putting together candy bags for the community block party.

# COSMETOLOGY



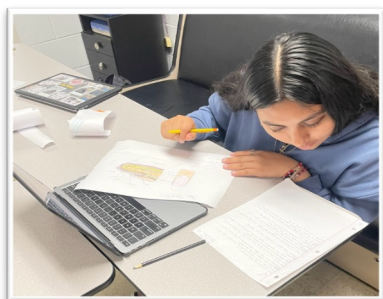
## Guest Speaker

Cosmetology had a guest speaker, Bianca Westfield, who demonstrated curly hair techniques, products, and she spoke on the importance of continuing education in the industry.



## Preparing for Success

Cosmetology is not just for females! Both male and females in this industry must be well-rounded in their knowledge to be successful.



## Structure

Cosmetology students completed a unit on nails in which they had to complete a drawn diagram of the nail structure.

# CRIMINAL JUSTICE



## Crime Scene

Criminal Justice students observed and sketched crime scenes, learning to look for the important details.



## Fingerprinting Skills

Fingerprinting a corpse can be tricky but is an essential law enforcement skill. Students in Criminal Justice practice on classmates pretending to be deceased.



## Proper Procedure

Learning proper handcuffing procedure is very important, especially since it can sometimes get physical and be dangerous to law enforcement.



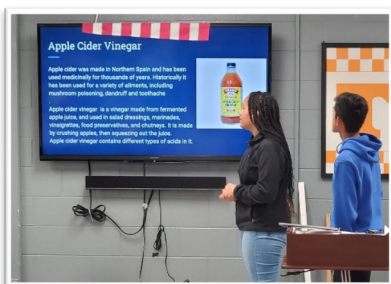
## Knife Skills, Life Skills

All Culinary Arts level 1 students are working on their knife skills with jumbo carrots. We have done 150 lbs. of carrots. They learned about waste management and how to cross-utilize our product in many different recipes.



## Across the Country

The Culinary Arts classes are taking advantage of the fall weather and learned about Chili from around the United States. They made six different types including Texas rustic, Westcoast vegetable, St. Louis white, American chili, Ohio skyline, and venison chili.



## Essential Ingredients

Level 1 students researched and gave presentations over essentials, talked about the different oils and various vinegars used for cooking.



## Around the World

Guests from Germany with the GAPP program came by to see what we have going on in the media class. CHS students shared what they learn and have the opportunity to do, and the students compared high school life in their respective countries.



## Essential Skills

Level 1 groups started learning the essential skills of how to use the green screen and the three key points of lighting this week.



## New Challenge

Digital Media filmed a new show, "Spicy Wing Challenge", which was sponsored by the Cleveland Buffalo Wild Wings. Three students volunteered to eat a variety of wings, ranging in heat.



@BLUERAIDERSLIVE



@CHSLIVE



CHSLIVE



CHSLIVE



## Knowledge & Treatment

Sports Medicine & Rehab students practice knowledge and treatment of tissue injuries using the RICE principle: rest, ice, compression, elevation.



## Hands On Skills

Pharmacy class makes cold weather hand cream and learns how to package it in metal tubes.



## Elementary Connections

The clinical internship class went to Yates Primary to help the first graders with their anatomy surgery project.



## Robot Fun

Computer Science AP students added an extra element to some of their previous robot work. The students had to make a course and navigate while staying in the lines. Lots of code collaboration and lots of laughs.



## Collaboration

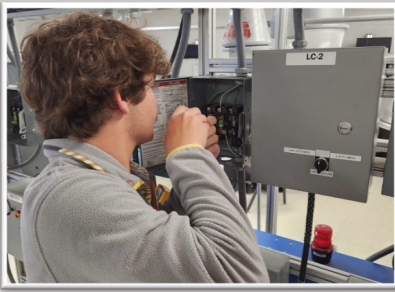
Computer Science Academy collaborated with the CHS Welding Academy to create a custom piece requested by a customer and shipped it out West.



## Robot Greetings

Computer Science students introduced classroom visitors to the AI robot, Pepper. She greeted the visitors and answered all their questions.

# ROBOTICS



## Hands-On Learning

Youth Apprenticeship students are learning about different types of disconnecting means. They are learning proper installation, wiring and how fuses are utilized in these devices.



## Elementary Visit

The Robotics students were invited to go to Mayfield Elementary for their STEM day and to demonstrate how robots work. The elementary students enjoyed getting some hands-on experience.



## Build Challenge

Robotics/Engineering students have been learning about hydraulic systems. Students were challenged to build a hydraulic crane that could lift 5lbs using syringes and water.

# WELDING



## Project

Welding level 3 student, Stonewall Shurette, made a dip rack for the football weightlifting room.



## Production and Safety

The welding classes have been completing on the 5S pillars in the workplace: sort, set in order, shine, standardize, and sustain. This method helps sustain a productive and safe work environment.



## Future Opportunity

Seniors in welding, robotics, and automotive took a tour of the UA Local 43 in Chattanooga and learned about future opportunities of apprenticeship and employment.

# A Message From The CTE Supervisor

Cleveland High School CTE  
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(423) 472-8098  
[rwhittenbarger@clevelandschools.org](mailto:rwhittenbarger@clevelandschools.org)

## Important Dates

### **December 13**

ASVAB Testing for Juniors

### **December 20**

Abbreviated Day

### **December 21- January 5**

Christmas Break- No School

### **January 4-5**

Teacher In-Service- No Classes

### **January 8**

Students Return to class

### **January 15**

MLK Day- No Classes



## Connect with us!

Join us on social media and stay up to date on many of the great things happening here everyday.



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Created by Jennifer Higgins