



# TECHNOLOGIZE

Winter 2023 EDITION

Membership as of January 27, 2023

132 active members

Northern 36, Valley 31, Blue Ridge 12, Tidewater 27, South Central 17, Southwestern 0, Out of state 4, Organization 1 At least 5 are gifted memberships (there may be others but 5 show up as using the gifted membership).

## Your Board Authorizes FREE memberships

By Dave Curry, Vice-President & Membership Chair

Recognizing our membership totals have been declining over the past several years, the board of directors authorized spending funds to encourage new members. What better way than to create a one time free memberships to practicing Technology Education teachers? See the flyer on the next page offering the opportunity to be a part of our association with no out of pocket cost to the individual. We realized the very low fee of \$20 might turn some individuals off to joining us. It is believed that the networking one makes through VTEEA events is worth its weight in gold.

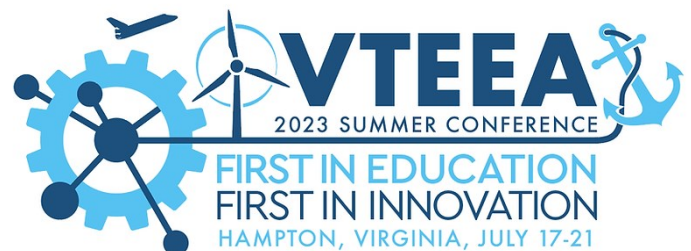
Regional presidents have been given the responsibility to identify 10 non members per region to hand out this membership deal. Early reports we have indicate that individuals are accepting the membership offer.

*Did You  
Know About  
This?*

Everyone is encouraged to contact a teacher in your county with this offer. After talking to the individual on what we do, submit their name to your regional president. It is time to make our membership grow. A goal of 20% of all teachers in the state of 2,000 employed teachers is about 200.

## Call for Presenters

It is time to showcase a project you made with students, a storage system, a lesson that went particularly well and share with others like you! Presenters at the annual summer conference receives additional recertification points. Everyone knows it is more work on yourself to get it all together but in my experience the positive feedback I received from my colleagues made every minute worthwhile. Go to our website [www.vteea.org](http://www.vteea.org) and click the **Annual Conference** tab at the top which will bring you to the conference page. On the right hand side click the **Apply to Present** link



# VTEEA **FREE** **MEMBERSHIP**



## **WE WANT TO GIVE YOU A FREE MEMBERSHIP**

**OFFER AVAILABLE TO THE FIRST  
10 TO REPLY FROM EACH REGION**

## **JOIN US**

### **MEMBER BENEFITS:**

**NETWORKING**  
**REGIONAL CONNECTIONS**  
**PROFESSIONAL DEVELOPMENT**  
**ANNUAL CONFERENCE**  
**AWARDS/RECOGNITION**  
**EXCLUSIVE RESOURCES**  
**NEWSLETTER**



TO CLAIM A NEW FREE MEMBERSHIP OR  
TO OFFER A NEW FREE MEMBERSHIP TO A  
COLLEAGUE PLEASE REPLY TO YOUR  
REGIONAL PRESIDENT

**BLUE RIDGE - APRIL PEACOCK**  
**NORTHERN - ROBB DUDEK**  
**SOUTH CENTRAL - JENNIFER  
TOLLEY OR TROY GUERRA**  
**SOUTHWESTERN - AMY SABARRE**  
**TIDEWATER - EDWARD BOFFMAN**  
**VALLEY- BRITTANY CARPER**

ELIGIBLE TO NEW MEMBERS

# VTEEA NEEDS YOU

## Open Board Positions for 2023-2024



### PRESIDENT

A three year term that includes one year as President elect, acting President, and past President.



### PUBLICATIONS EDITOR & HISTORIAN

Solicits for articles, organizes Technologize, publishes the newsletter and takes pictures at the Summer conference.



### REGIONAL PRESIDENTS

In search of Regional presidents for:  
Southwestern Region  
Northern Region



### ELECTIONS CHAIR

Recruits for open positions on the board, sets up elections, and promotes leadership within VTEEA



### LEADERSHIP

This is a devoted group of volunteers that without them our organization would not exist. Please join our team as we continue to support T&E teachers around Virginia!



[www.vteea.org](http://www.vteea.org)

## Did You Ever Wonder About How Frameworks For Curriculum Are Reviewed?

By Dr. Lynn Basham, VDOE

CTE courses are on either a five-year or three-year rotation. Content that is dependent on computers and software tend to change on a three-year schedule. Others, that change a little less often are on the five-year schedule. Some whose basic content does not change may go longer without revision. An example of that is electronics. While there is change, some things are so basic that they do not change at all.

When a course is up for review, we must find industry, business, or collegiate reviewers. The other half of the review team is made of teachers who volunteer to assist. **A good mix of teachers is one that includes people who have taught the course successfully for years, and those who are new to the course.**

Reviewers are asked initially to assist, then are sent formal letters of invitation. Teachers must apply currently through the CTEAPS system, list their CTE director as reference, and have the request reviewed by the superintendent of the school division's office. About a week before the review, all participants are given instructions and a review document from the writer at the CTE Resource Center. During that week, they can write comments on the document to use in the virtual meeting. Things can change in the documents. Concept areas may be moved, added, or deleted. Individual tasks can be rewritten using a different verb, better definition, or combined with another task. Tasks can also be added, moved or deleted.

On the day of the review, a four-hour virtual meeting takes place. People provide feedback about their comments and opinions. The document is gone through in the order it exists unless severe changes are being made. Then the group may agree to do the Concept Areas out of order. **It is an interesting commitment for both industry and teacher participants.** Industry may bring new content and may learn why teachers teach the way they do. Teachers may become familiar with industry people they can call on, learn new content and meet teachers they would not ordinarily meet.

The bottom line is to better prepare students for our changing world. **Volunteering to serve on a review team can be rewarding for all involved.** Consider helping on one announced in the spring for the next year. **Schools are reimbursed for substitutes needed, and teachers who write Process Skill Questions are paid a stipend.** Those teachers also can review the work and make further comments. It may be a four-hour virtual meeting, but time flies!



# Come to Frederick County where You Can Inspire!

By Mary Beth Echeverria ([echevem@fcpsk12.net](mailto:echevem@fcpsk12.net))

Frederick County, in the Top of Virginia has it all; mountains, river, wineries, breweries, a variety of restaurants and activities along with historical sites and museums for individuals of all ages.

In a school division of nearly 14,000, Frederick County supports and values Career and Technical Education for all students. Technology Education courses are taught in **three high schools** and four middle schools. Offerings include graphics, engineering, electronics, manufacturing, animation, digital imaging, animation, and architecture. Growing work based learning opportunities for students in these areas are a priority.

Teachers are provided mentors and resources to support instruction. Labs are outfitted with updated equipment and professional learning and networking opportunities are available.

Keep an eye on our [employment portal](https://fcpsk12.tedk12.com/hire/index.aspx) that is found at this url: <https://fcpsk12.tedk12.com/hire/index.aspx> There are currently two high school positions posted. If you have any questions, please email [finkk@fcpsk12.net](mailto:finkk@fcpsk12.net) or [tril@fcpsk12.net](mailto:tril@fcpsk12.net).

## Who we are in Frederick County

By Ron Vickers



Sherando Warriors

**Sherando High** is located at the southern edge of the county. Brittany Carper, is the department head and the school is known for a strong graphics program with

Lyndsay Almarode. I'm the production teacher but will be retiring this coming July All three schools are 4A with very competitive athletic teams.

Located slightly east of Winchester city is **Millbrook High**. Matt Brame is the lead Technology Teacher there and we hear he is considering hosting the Valley Regional TSA events at his school to give Mr. Ham from Stuarts Draft High a break from all the effort involved in hosting the contests. Dan



Millbrook Pioneers

Friend teaches drafting at Millbrook. Further north is **James Wood High**. Long



James Wood Colonels



This is what James Wood looks like today.

serving Graphics teacher, Kristin Guthrie works with Jules Libby and Nathaniel Klink providing quality coursework. Just last weekend they hosted a valley region professional development workshop which is highlighted later in this newsletter. The school is undergoing a 3 year renovation and addition which only makes working there more exciting. To the right you can see what JWH looks like as you drive up today.

All three school have active TSA programs and new last year they got involved with the Electric Vehicle Grand Prix hosted by Ieee. Most of my readers will recall getting an opportunity to drive the Sherando vehicle at last summer's annual conference hosted at Admiral Bryd Middle School .

Our four middle schools all support Technology Programs. Dave Curry is the lead teacher as **Admiral E. Byrd** and serves as our VTEEA Vice President. Matt Hockhammer has joined Dave at Bryd. Michael Goddard teachers at **James Wood Middle School**. Chris Poniris and Perry McKay teach Technology Education at **Frederick County Middle School**, our showcase school in the county. It is located closest to West Virginia at the top of the state. Austin German is at **Robert E. Aylor Middle School** which is our newest building that recently moved from the older Aylor.

# Focus on Us!

Submitted by Ron Vickers

**Jerry Ridgeway** is currently teaching at Turner Ashby School in Rockingham County. He submitted the following:

*I began my teaching career, as an ag teacher, on April 1 (that's right, April Fools' Day) 1982. I only taught ag until the end of that year then the next year began working on my certification in industrial arts as it evolved into technology education. I had to do some course work to get my certification as there was no Praxis test for tech ed at the time. With the help of a wonderful mentor of a number of us tech ed teachers in the Valley, Dr. Arvid VanDyke, I was able to get my masters' degree in (as it was called at the time) vocational education while working on my certification. I completed my masters' degree from JMU and graduated in December of 1988, while my wife was pregnant with our son, Matthew. And thus it started . . .*



*This is from dress up like your favorite teacher during National TSA Week. Can you spot the real Mr. Ridgeway?*

By the time I retire at the end of this year I will have been teaching for 41 years and a couple of months, all in Rockingham County. I have to say it's been an incredible experience. I have thoroughly enjoyed my teaching career, and most especially my 40 plus years of being a TSA chapter advisor. What great times I've had getting to know my students better as I've watched them grow and mature into outstanding young men and women, due in part to their involvement in TSA.

I have gotten to know so many incredible teachers through my involvement in TSA. The chapter advisors in Virginia are without peer anywhere in

the country. My family did not travel much when I was growing up but thanks to TSA I've been to Corpus Christi, Dallas, Chicago, Orlando, Louisville, Denver, Atlanta, and Nashville (my personal favorite for a conference), just to mention some of the cities that have hosted national TSA conferences. It was truly memorable to share a number of these experiences with my son who was in TSA in middle and high school (he was the Virginia TSA President in 2006 - 2007).



**Billy Batkins and Jerry at the TSA Leadership Academy in 2021.**

*I cannot say enough positive things about my involvement in TSA throughout my teaching career. There have been disappointments, of course, but the successes and positive experiences far outweigh any negative ones. I won't tell you that it's not extra work, because it is, but it's always been the most rewarding part of my job. I plan to still be around some after I retire but I will miss my total involvement in TSA. I will miss my students, I will miss the advisors here in the Valley, and I will miss the advisors in Virginia. I will continue to see them, but it won't be the same. Nonetheless, it is time to turn the job over to someone else, especially so I can concentrate on a new job starting in August - being a grandparent (our daughter Kate is expecting a baby girl). I have full confidence in those coming behind me, and I can't wait to see what they do.*

## Editor's Note:

I have an enthusiastic shout out for all the work he has done for our profession. Besides continuous commitment to TSA Leadership in the state, Jerry has taught many of our electives in a way that we should model. He helped develop Children's Engineering program through teaching JMU Design Courses to elementary teachers. Jerry is the "Voice of Turner Ashby," by announcing football games. These will be hard shoes to fill.

# Bishop & Rountree Receive Award

By Ron Vickers

Congratulations to George Bishop, technology education teacher at Battlefield High School. **Project Lead The Way, Inc. (PLTW) has named him an Engineering Outstanding Teacher of the Year.** Bishop is one of only 16 educators selected nationwide for the PLTW Outstanding Engineering Teachers award. The award honors teachers for their work and commitment to unlocking the potential of their students. Bishop was nominated by a former student, now attending Old Dominion University, who is also the first freshman ever to enter the school's Technology Engineering Education Teacher Preparation Program.



**Dawn Rountree, Engineering Lead Teacher, and Sarah McDonald, Biomedical Sciences Lead Teacher, of Suffolk Public Schools were also named PLTW Outstanding Teachers for the second time.** Both ladies received the honor just before the pandemic in 2020.





# Engineering With Empathy: Carson MS Students Design Devices to Help Those in Need

Reprinted by permission of Office of Communication and Community Relations,  
Fairfax County Schools

*Eighth-grader Rishab Nanduri made a brace to help people with spinal cord injury inspired by his father's back pain woes. His classmate Aasritha Duriseti made a specialized bottle cap opener after watching her grandmother struggle to open things on her own. And Roman Moreno-Hines made a "third thumb" that he hopes will help people with arthritis hold objects longer after noticing his grandfather's difficulty hanging onto coffee mugs.*

*It's all part of an "Engineering With Empathy" unit created by Rachel Carson Middle School instructor Mark Bolt for students in his Engineering 3 elective course.*

*"The overarching goal of this project is for my students to understand that empathy is an important component of engineering," Bolt says. "Engineers need to understand their users' needs, and put themselves in the users' shoes, in order to then build an effective solution."*



Carson MS technology education teacher Mark Bolt looks over students' work in the classroom.

*Bolt challenged his students to start the project by researching various disabilities and the obstacles individuals must overcome to perform daily tasks. Then he had students construct an adaptive device, have classmates test it and give feedback that can be used to improve the item.*

*"Throughout the project, students follow the Engineering Design Cycle and document their work showing the evolution of their adaptive device from prototype to finished project," Bolt said.*



*Eighth-grader Michael Kuwashima did just that with his "book blinds," which are designed to assist people with dyslexia as they process written information. The blinds, made of folded paper that the user can move up and down on a page, can be used to isolate words by the reader.*

*"Fewer words means less to focus on so people will hopefully have an easier time reading," Michael says, adding he started the project by asking a good friend with dyslexia to have an "in-depth talk" with him about what life is like with the disorder. "The biggest challenge he mentioned is that when you're kind of tired, it is hard to focus anyways and words can get jumbled up."*

*Kuwashima's classmate Arjun Garg created a "dressing stick" to help people with limited mobility put on clothes more easily. The device has four hooks that can be utilized to do things like grab the arm holes of a shirt so a person doesn't have to twist around as much while getting dressed.*



A "dressing stick" created by an Engineering 3 elective student at Carson MS is intended to help people with mobility restrictions dress themselves.

*"I wanted to create something that would reduce pain and make life easier for people," Arjun said. "I am interested in the medical field and this type of bioengineering is exactly what I want to do: make things that improve the lives of people, build devices that benefit patients and help doctors and nurses at the same time." Students noted the difference between solving problems in the classroom to benefit others and fun projects they'd previously undertaken, like work on model rockets and LED light stands.*

*"I loved the real world element," said Rishab Nanduri, who made the back brace with velcro straps, chipboard, and fabric that he hopes would help people like his father on a daily basis.*



An Engineering 3 student at Rachel Carson MS displays a bottle opener device designed with her grandmother in mind.

Carson Middle School Principal Gordon Stokes agreed.

*"So often our teachers in all classes are trying to connect their projects to real world applications and this unit did exactly that, I'm proud of Mr. Bolt and his students for making it happen." said Stokes.*





## Valley Region Social

*Back in October ?  
A few teachers  
got together on a  
Saturday after-  
noon in Mount  
Jackson at the  
Winery at Kin-  
dred Point for a  
social. Even with  
prior notice of the  
get together, only*



*5 of us made the meeting. As I always have said if only two of us get together it will be filled with talk about what we do that will be uplifting and informative. It would be great to be able to know about other times and places we network. Feel free to email or text me with your information for future issues.*

## Space Camp Fun

*By April Peacock*

*I was fortunate to be able to attend a week of Space Camp in Huntsville, Alabama last summer in early July. Northrop Grumman Corporation, an aerospace and defense technology company, (headquartered in Falls Church, VA) sponsored forty educators from across the country. It was a glorious STEM and space experience! We were treated to a special welcome dinner, housed by the University of Alabama at Huntsville, taken on tours of the U.S. Space & Rocket Center, and had some out-of-this-world speakers throughout the week.*

*We experienced 1/6 gravity as we walked on the Moon. We built, painted, launched, and retrieved rockets. We did experiments with heat shields and eggs. We created parachutes to protect our cargo (eggs) and dropped them from a second floor. We did activities that were NASA lesson plans and correlated to the National Science Education Standards. We dressed as astronauts and used authentic training simulators as we experienced the*



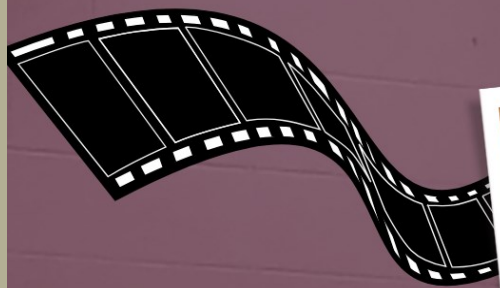
*exhilaration and challenges of traveling in space. We had former astronaut guest speakers, including Homer Hickam, author of Rocket Boys, and Dr. Larry DeLucas. We had lunches with retired NASA scientists who have worked on various missions. We did water simulations of crash landings, including zip lining in the water, escaping a space craft, and being retrieved from a crash zone. We did some of the most exhilarating activities that helped us to better under-*

*stand what astronauts train for, endure, and experience. We were able to walk partially in Christa McAuliffe's shoes, as we learned and investigated all that space exploration offers. Space Camp operates year round and has programs for youth as young as 7 through 18 years old. There are also several camps for adults, educators, and families. Some of the specific camps are geared toward aviation, robotics, and cyber. Scholarships are also available. Do you know a student who might benefit from attending Space Camp?*



*For more information follow this link:  
<https://www.spacecamp.com/space>*





**Share  
your  
classroom  
with us!**

*Spring*

# PHOTO

*Raffle*

Submission Deadline  
**1 May 2023**

**Open to  
ALL Regions**

**Win  
\$50  
Amazon  
giftcard**



## **What's going on in your classroom?**

**To qualify for the raffle, submit a photo from your class with a caption to [valleyregionvteea@gmail.com](mailto:valleyregionvteea@gmail.com).**

**All submissions will become the property of VTEEA and could be published in Technologize or other marketing materials. Multiple entries accepted, one entry per day.**



## Report of CTE Survey

By Amy Sabare, VTEEA President

In the fall, VTEEA reached out to all of the CTE coordinators in the state to help us to determine what the needs are in the state around Technology and Engineering Education. This survey has a small return percentage of 10% of those surveyed. So the survey size is rather small. However, we were able to determine a few trends within those surveyed.

**Question 1: How many CTE positions went unfilled for this school year.**

**Results showed an average of .70 positions went unfilled.**

**Question 2: As a result of the unfilled positions did you lose any of those FTE positions? If so, how many positions did you lose? Results of the respondents showed that 7.5 CTE positions were lost in the Commonwealth as a result of being unable to fill the positions.**

**Question 3: What are your projected needs for T&E teacher needs for the next 3 years (due to retiring teachers, increased demand, new programs, etc)?**

**Respondents reported needing an estimated 55 T&E positions in the next 3 years.**

**Question 4: What are the Specialty Positions that are hard to fill?**

**There were a large range of needs that pertained to this question that ranged from Technology Education teacher to computer science. Many different needs were mentioned. No one trend other than Tech Ed teachers stood out.**

**Question 5: Are you interested in safety training (equipment, hand tools and power tools) for your CTE teachers? If so, how many teachers would need this training? Results showed there was a strong need for safety training with over 60 teachers needing safety training.**

**Question 6: Please share any other information you feel is helpful in understanding the T&E teacher shortage issue in Virginia.**

**The commonalities were around the needs for teacher preparation both pre-service and inservice teachers to teach in T&E courses.**



**In response to the information we gleaned from this survey VTEEA plans to offer a full day of safety training at our annual summer conference on July 17th in Hampton Roads Virginia.**

**VTEEA will also share this information with VDOE and our partner organizations such as VACTE to continue to work on policy and advocacy for CTE teachers. VTEEA also has new teacher virtual professional development that can be offered to our members as an additional support. Lastly, Virginia Tech is restarting their technology education teacher preparation program.**

## ITEEA to Receive Jefferson Trust Grant

**RESTON, VA, January 26, 2023** - The International Technology and Engineering Educators Association (ITEEA) partnered on a proposal submitted to the Jefferson Trust at the University of Virginia that has been selected to receive funding. The proposal is titled "Piloting an Open-source Educational Manufacturing Model," and funding radically expands an Invention Laboratory program from proof-of-concept stages at **Buford Middle School in Charlottesville** and **Forest Glen Middle School in Suffolk** to a national, open-source curriculum.

ITEEA President *Debra Shapiro* is participating in the initiative, which is part of ongoing efforts to enhance the Engineering by Design curriculum. Students in her seventh- and eighth-grade engineering classes are currently reconstructing great inventions in American history. This work is grounded in work with curators at the Smithsonian Institution and the Make to Learn Laboratory at the University of Virginia, and has seen practical application and use with middle school engineering students as part of an ongoing, decade-long collaboration with Charlottesville City Schools at Buford Middle School. Her students are currently piloting an Animation Laboratory in which students are reconstructing inventions such as Edison's kinetoscope that ultimately led to birth of cinema. Students will then use the knowledge gained through this process to design their own inventions that incorporate 21st century technologies such as sensors, stepper motors, and microcontrollers while gaining knowledge on Integrative STEM. Ms. Shapiro shared, "It is fantastic to learn that this important grant to continue working on the pilot program for Animation Laboratory and Engineering by Design Curriculum was awarded." For more information follow this link <https://www.iteea.org/News/39955/219596.aspx>

# James Wood High Hosts PD Workshop on Resins and Electronics

By Ron Vickers with editing from everyone else in attendance

Last Saturday I attended perhaps the best professional development workshop I've been at in over a decade. The three JWHS Technology teachers really planned a great learning experience.

Those in attendance all reported on how much fun it all was. Perhaps the fact we took a lunch break eating at a bar and grill nearby, it gave everyone the time to get to know folks we just met and share our stories. This workshop got off the ground with a flyer announcement enough in advance to give folks time to schedule it in our already busy schedules.

## VTEEA WORKSHOP

Saturday • January 21 (weather date 28) • JWHS • 161 Apple Pie Ridge Road, Winchester VA 22603  
8:00am - 3:00pm • coffee & donuts • snacks will be served.

### RESIN POURING

We will complete a resin pouring of a Handle for a Lathe Blank. This you will take home to make later.

I will have completed blanks available to choose from and we will turn a handle for an Exacto Knife. Then you will complete an exacto knife set to take with you.

### ELECTRONICS

Use prototype boards to create your own soldering kit! During the workshop, you will learn how to connect circuit components without a PCB and make affordable soldering kits for your students.

The circuit that we will practice on is a HEX Bug (vibration motor bot).

\*Picture of hexbug may not be the same as what we do.



Resin Blanks



Hexbug Na Electronics

EMAIL SO WE CAN PLAN

guthriekefcpsk12.net

If you are going to join us!  
Resin takes a good week to cure for turning on a lathe. I want to make sure I have enough blanks.

The group was split up into two groups with one turning already cured resin blanks on a wood lathe and the other group learning how to mix the resins. Kristin Guthrie modeled her teaching techniques in how she explained to a class of teenagers. I believe she said trying to teach teachers was harder.



*Time went fast and many of us needed to leave before we had time to fully invest in Libby's*



*electronics setup. Looks like we will have to get together again to learn from her. The next page lists items Guthrie used.*



## Products used at VTEEA Workshop for resin handles

Copper Tubes. You can use brass if you can find them.

[Copper tubes](#)

Bottles - 1 pack Any kind of closable lid bottle will work. I like Condiment bottles from the dollar store. I think these were cheaper though.

[Bottles](#)

Mini Sprayer - 3 packs These I use for the 91% Rubbing Alcohol

[Small spray bottles](#)

Epoxy resin - 2 x 2 gallon A/B parts

[https://www.amazon.com/SUPERCLEAR-Crystal-Casting-Pigment-COUNTERTOP/dp/B07DM6VH2P/ref=sr\\_1\\_4?crid=3LD2QNFHZRCIJ&keywords=alumilite+epoxy+resin&qid=1648170240&s=hi&srefix=alumilite%2Ctools%2C95&sr=1-4](https://www.amazon.com/SUPERCLEAR-Crystal-Casting-Pigment-COUNTERTOP/dp/B07DM6VH2P/ref=sr_1_4?crid=3LD2QNFHZRCIJ&keywords=alumilite+epoxy+resin&qid=1648170240&s=hi&srefix=alumilite%2Ctools%2C95&sr=1-4)

Glitter - 1 pack What ever glitter you find will work. For lathe work I would stick with fine powder or small glitter. Not chunky

[https://www.amazon.com/Pigment-Natural-Cosmetic-Powders-Colorant/dp/B093WKZMTK/ref=sr\\_1\\_4\\_sspa?crid=2CZ4EVHPA8AZA&keywords=small+bags+of+mica+powder&qid=1648171851&srefix=small+bags+of+mica+powder%2Caps%2C72&sr=8-4-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUEzSDNEMFZGNDVCNU05JmVuY3J5cHRIZEIkPUEwODgwNjk0M0JPR0xFM05KRVPjSCZlbnNyeXB0ZWRBZEIkPUEwMzQ2NDMwMThUN0VOWIhCQzZRWiZ3aWRnZXROYW1lPXNwX2F0ZiZhY3Rpb249Y2xpY2tSZWRpcmVjdCZkb05vdExvZ0NsaWNrPX](https://www.amazon.com/Pigment-Natural-Cosmetic-Powders-Colorant/dp/B093WKZMTK/ref=sr_1_4_sspa?crid=2CZ4EVHPA8AZA&keywords=small+bags+of+mica+powder&qid=1648171851&srefix=small+bags+of+mica+powder%2Caps%2C72&sr=8-4-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUEzSDNEMFZGNDVCNU05JmVuY3J5cHRIZEIkPUEwODgwNjk0M0JPR0xFM05KRVPjSCZlbnNyeXB0ZWRBZEIkPUEwMzQ2NDMwMThUN0VOWIhCQzZRWiZ3aWRnZXROYW1lPXNwX2F0ZiZhY3Rpb249Y2xpY2tSZWRpcmVjdCZkb05vdExvZ0NsaWNrPX)

[RydWU=](#)

Mica Powder - 1 pack

[https://www.amazon.com/Metallic-Fine-Glitter-Powder-Tumblers-Colors/dp/B095BT7Q5T/ref=sr\\_1\\_4?crid=1ORUUMVZO93WB&keywords=glitter&qid=1648172314&srefix=glitter%2Caps%2C86&sr=8-4](https://www.amazon.com/Metallic-Fine-Glitter-Powder-Tumblers-Colors/dp/B095BT7Q5T/ref=sr_1_4?crid=1ORUUMVZO93WB&keywords=glitter&qid=1648172314&srefix=glitter%2Caps%2C86&sr=8-4)

Exacto knives - 5 PACKS

- [https://www.amazon.com/.../ref=cm\\_sw\\_r\\_cp\\_api\\_i...](https://www.amazon.com/.../ref=cm_sw_r_cp_api_i...)

$\frac{3}{4}$  inch PVC pipe.

Pressure Pot. These are great to have for removing bubbles from the resin. I do not have one.

[Pressure Pot](#)

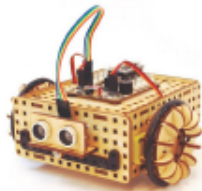
Resin. This is another 2 part resin..

[2 part resin 2 gallons](#)



SCAN TO SEE  
OUR LATEST  
BROCHURES

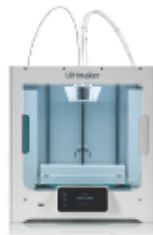
# what's new in TechEd



3D PRINTERS  
LASER CUTTERS  
3D SCANNERS



WIDE FORMAT PRINTERS  
CNC ROUTERS & PLASMA CUTTERS  
ROBOTICS & ELECTRONICS  
DRONES & ROVER STEM KITS  
COMPACT STEM TRAINING KITS  
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[info@amtekcompany.com](mailto:info@amtekcompany.com)



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## Kids in Harrisonburg City Schools Win Big in Junior Solar Sprint

By Amy Sabarre

While regional competition is still weeks away, the students in HCPS are already winning big.

As an update to our article in the last issue of Technologize, Junior Solar Sprint has continued to pick up momentum with teachers and students. This new Integrative STEM educational activity for

Harrisonburg was a large undertaking that was not without risks. What began as a project with all 5th graders in the school district quickly added an additional 400, 8th grade students.



With **841 students** in grades 5 and 8 participating in JSS and over **280 solar car** kits in hand the risk of taking on this new challenge was a scary one. This is the first time our school district has done the JSS program and planned to compete in the TSA competition with students. In addition we are taking this on co-curricular within the science content block. As part of ensuring that teachers would feel comfortable, a professional learning event for 5th grade teachers was given

at the October professional learning day. The teachers were given the unit created by the elementary STEM specialist that included the 3 pre-lessons. The full unit can be found [here](#). **Link to a docs page is not accessible to readers** Even after this support and the support of the STEM specialist at each school, teachers were wary of doing this with students. Some even tried to not participate with their students.



I am happy to report that this activity has changed the mindset of some of our teachers. Just recently in a meeting with a 5th grade teacher she said “**We underestimated the students. I was scared because I have never done this before but we are all learning**



**together.”** While not everything has been perfect and finding the right gear fit has been challenging, students are being successful in getting their car to move.

Students will have a school based competition in late January. In addition, over the next few weeks

during any spare time or indoor recess the students will continue to hone their cars and **ready them for a competition at the huge STEM day event at the Valley Mall on Feb. 25th**. At this event students from all 8 of the participating schools can come and work on their cars at the AutoZone before racing them on the competition track to determine their time. We are hoping to take the winning cars to a regional competition in the Valley in March.



Comments and suggestions are welcome! Send me a note if you see any errors.  
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## TSA News

By Brian Bazzle

*First off, this is Awesome, thanks for sharing!!! Second, the TSA Fall Rallies are done. Jerry Ridgeway announced that we had the largest attendance for Fall Rally of any of the six regions and that we the Valley Region had the only regional officer team that had all eight offices filled. Jerry did announce to all those in attendance that this would be his last Fall Rally. I surely hope we will still stay somewhat involved in TSA like Dub Stansbury has done, but Jerry retiring will certainly be a blow to the Region. Maura Stout has stepped up to coordinate next year. Regional Contests are Here. Saturday, **March 4** is the day most all regions are scheduled.*

Northern Regional Fair -Thomas Jefferson High School for Science &Technology

South Central Fair -Matoaca High School

Southwestern Fair -Washington County Career and Tech Center

Tidewater Fair - Grassfield High School

Valley Fair - Stuarts Draft High School

Blue Ridge Fair **March 11**, -Narrows High School