TECHNOLOGIZE

Middle School Edition

We're All in this Together!

Alisa Rushing
Swift Creek Middle

One of my biggest concerns with teaching virtually has been how to keep my students engaged and interacting outside of the lab. Over the summer both MS and HS

technology and engineering teachers held a virtual meeting and looked at software that could be used within our county to give our students a hands on experience until we could get them back in the classroom. From that meeting I was introduced to makecode.microbit.org . Microbit is a microcontroller emulator that students can interact with changing inputs to achieve their desired outcome.

The website has 6 tutorial lessons in Block, Python or JavaScript allowing for both beginner and advanced coders to be challenged. Students are introduced to how LEDs, buttons and accelerometers work within a microcontroller.

Since I had not used the software before, I decided to incorporate it at each grade level. I worked through the tutorials with my students in our class meetings and then
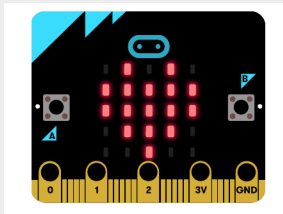
challenged them to create their own program with each new skill learned on their own outside of class. Students were excited to present their programs at the next class meeting and every student was able to be successful.

Top 4 Things I Have Learned Teaching MS Tech ED and Engineering Virtually.

1. They are listening. They just do not comprehend. Repeat, Repeat, Repeat. Make a visual.
2. You have to force a MS student to participate.
Have them comment in the chat.
Do a Google Form to poll the class to check for understanding.
Have them show a picture of their work.
3. Work will be turned in late.
End each class with the question: What do you have to do before next class?
Start each class with the question: What were you supposed to do before class?
4. Don't beat yourself up. If they are logging in and learning something every day, it was a good day.

Deb Shapiro
Forest Glen Middle

Being a technology and engineering teacher, I am going to do what I need to do to solve problems; with teaching virtually, there are many. The biggest is that so many of my students are in rural areas without internet connections that they can use to attend

class virtually. Many of them cannot view the videos from the live virtual classes. This frustrates me to no end as an educator! They are falling through the cracks left by the lack of internet connectivity. Our system has put in boosters at our schools so those that have internet issues can park at school to do their work. My middle schoolers have to rely on a parent or other adult to get them there. Some of our schools have "Internet Cafes" during the day and evening; again, my middle school kiddos have to rely on someone to get them there. So, we trudge onward working with those who can and hope for the best for those who cannot. I am in hopes that they are getting what they need from the core subjects and refuse to pressure them on my exploratory class. Yep, it is heartbreaking.

STEM in the Elementary is still Alive

Engineering takes on a new look for the 2020-2021 School Year!

Heather Russell
Ecoff Elementary School

Like most schools in the state of Virginia, we started the school year learning virtually this past September. The weeks leading up to the first virtual day were spent tirelessly brainstorming lesson plan ideas, collaborating with other teachers, and reaching out to local community members to bring a vision of mine to life. Knowing that most of our students had limited resources at home, I wanted to put together engineering bags for all 700 students filled with tons of consumable materials they would use to complete 3-4 engineering challenges. The immediate problem that hung over my head was "how am I going to get enough materials for 700 students?"

I posted my idea on social media and within minutes I had tons of friends, family, and school community members reaching out and purchasing materials off the supply list. Within a few days, not only did I have enough materials for the 700 engineering bags but also extra supplies for when students returned for face to face instruction. Without their generosity and faith in me, my vision would have never been possible. Thank you to everyone who helped contribute their time and money to bringing this idea to life!
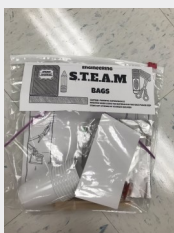
To the left is a photo of what the bags looked like when they were complete. Our school held a "drive through" meet the teacher event Thursday before school began. Every teacher was stationed outside around the school building (in the picture is myself and my steam itinerant) and families drove through waving to teachers and getting materials for virtual

learning (one of which was their steam bag). Out of 700 students, we only had about 20 bags not picked up from the event, which we then delivered to houses directly.

No one could have prepared us for what this school year would have looked like, Usually I spend my summer planning out guest speakers, create new hands on lessons (like teaching scale modeling or aquaponics) but teaching virtually has definitely been a learning curve for me. I spent the first month of school getting to know the students, teaching how to navigate Canvas pages, brainstorming what we thought engineering was, and we even explored topics that sparked our interests. We did mini building challenges such as deigning a cooler to keep ice from melting, designed fishing rods that could pick up metal washers out of spaghetti, and recently just had a blast creating advertisements for new portable music devices for the future. The toughest challenge I have faced thus far is definitely motivating students who are learning virtually. I have become creative with wearing costumes, collaborating with other teachers, and just plan acting silly to get laughs.

Three weeks ago our K-3 face to face students returned and just yesterday our 4-5 students face to face students returned. I was amazing to see how excited the students were to walk down the halls again and see their friends.

With this new transition, resource is on a cart juggling between face to face teaching and virtual students throughout the each day.

We now teach 35 minute blocks, allowing us time to sanitize and clean before moving onto the next class. Since our school is split (1/2 students are face to face and 1/2 are remaining virtual) resource is now on a 3 week rotation. Lesson planning now has a different look, virtual lessons, and asynchronous videos.

In the coming weeks we are getting excited to celebrate "Fall" by: designing stands out of straw and index cards that can hold the weight of a pumpkin, creating spider parachutes, creating leaf people, and engineering thanksgiving tables out of Legos.

In December we will be celebrating the Hour of Code with our face to face and virtual kids by using coding robots and playing online coding games.

We hope to create additional engineering bags for the students who are remaining virtual for the remainder of the year at the start of the 3rd nine weeks.

2

Owen Onderdonk
Nelson Middle School

I've been using Khan Academy to teach JavaScript with my 8th grade Digital Visualizations class with great success. Learning the programming skills will lead to more complex animation skills. Object based programming is pretty tough though! Their final programming project before doing the animation competencies is to create the game Pong from scratch. It has to have two independently controlled paddles, a ball that collides and reflects with paddles and boundaries, and a variable score counter for each player. Khan Academy is a blessing, especially since I have all virtual learners.
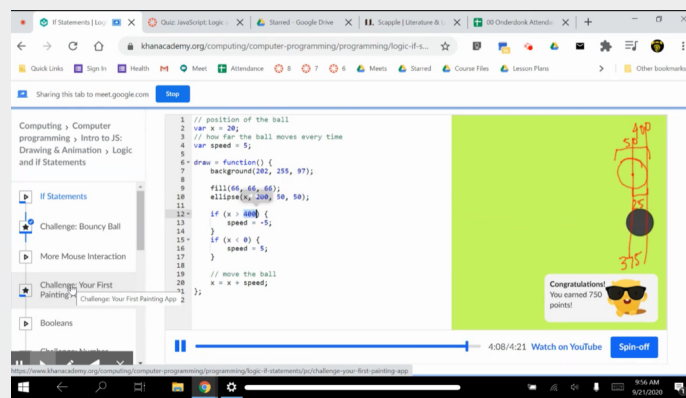
Christine Richmond
**Peter Muhlenberg Middle School**

Many of us are struggling with how to shift our hands-on, collaborative classroom lessons to the world of digital learning. My biggest struggle with this shift has been how to teach robotics and coding to my 5th and 6th graders when we can't safely use the robots in class. It is difficult to find a way to emulate the experience in the online environment, until I came across CoderZ. CoderZ allows my students to be exposed to the world of robotics using online EV3 robots. The lessons are asynchronous and progressive in nature. When
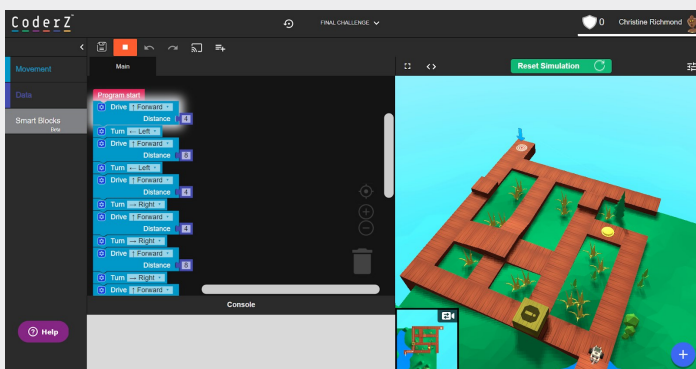
students are in the building for hybrid learning, we are able to discuss the lessons and I can help troubleshoot when needed. I am able to demonstrate some of the challenges using my EV3 robot as well. I am in the infancy of using this program, but I am

pleased that it hits my competencies, and students really seem to enjoy it.

It is often easy to focus on the negative during this difficult time. I find it easier to focus on my successes, which helps keep my attention on student learning. A success for me this year has been the implementation of digital notebooks with my students. I have been wanting to use digital notebooks for many years but the creation time was holding me back. I was
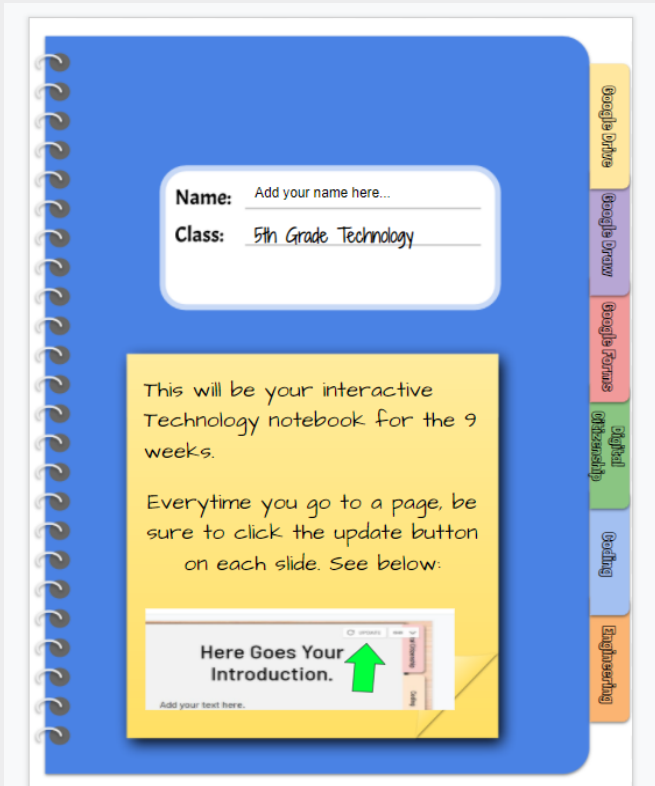
fortunate enough to have the month of August to create these notebooks for my students in grades 5-7. With the shift to a digital platform, the notebooks helped to streamline clicks for my students. This was beneficial not only for students but for parents. They only had to go to one place to find the assignments to help their students.

I organized the notebooks based on the various topics we cover over the course of 9 weeks for 5th and 6th grade and the semester for 7th grade. For example, 6th grade's tabs are: Digital Citizenship, Coding, Engineering, Resources, and Google Stuff. In my Resource section, I include helpful links for students and parents on using G-
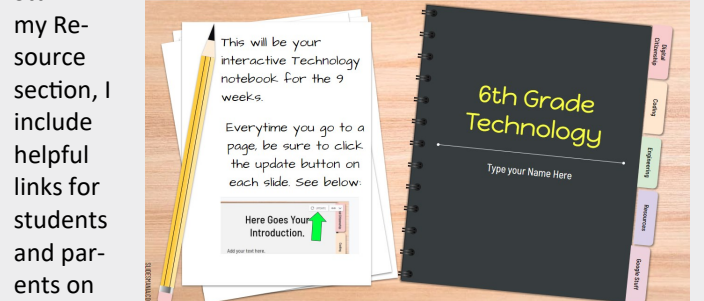

Suite, Schoology, and the chromebook. Below are some of my examples. After the completion of one quarter, the feedback from parents and students has been very positive.

3

Jay Brockman
Goochland Middle

We typically start the year with an activity where students are tasked to design and buil a strong structure out of straws and tape. Students have several constraints they have to work within, and the project concludes with a strength test in which students stack wooden
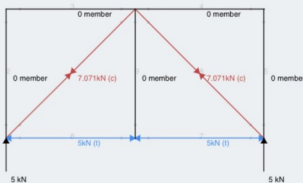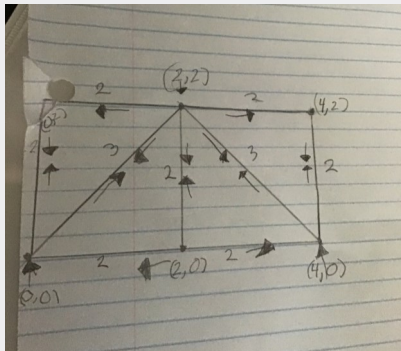
blocks on their project until it collapses.

A virtual start to the school year meant project-based learning was not feasible, so students instead designed trusses. This activity included basic engineering content like forces and statics, as well as math content like measuring length and plotting points on a coordinate plane. Classes then: 1. made educated guesses as to which members in their trusses were in tension, and which were in compression, and which were 0 force members 2. plugged their designs into web-based structural analysis and design software, which allowed students to compare their estimation to the actual forces acting on
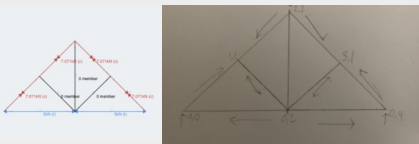
each member in their design.

Michael Jennings
Thomas Harrison Middle

While every New Year has its challenges, this year seemed even greater. How do we teach a class that thrives was a good comprehensive virtual learning platform to be used in both Canvas and Google Meet. Well we all know what they say about the best laid plans. After making a few adjustments we were into our first real lesson, The History of Technology. The lesson was not hands-on, but more of a research project to see how well the students did on hands-on experiences in a virtual world? Our first few days were bumpy to say the least, as I struggled to try and figure out what screens my students were on and how to share their screen so I could help them navigate to where they should be. Over the summer Hans Herlan and I of Skyline Middle School had developed what we thought could incorporate the various technological tools they had at their disposal. They were tasked with making a presentation on the history of technology in an area they chose.

The areas were: manufacturing, agricultural, biotechnology, construction, communication, energy and power and medical technologies. They were to create a timeline that included at least ten significant technological advances in the field they chose. While the results were varied, I did receive some very good Google Slide presentations. Overall it was a good lesson; those who elected to participate were engaged both in class and office hours asking for help and guidance.
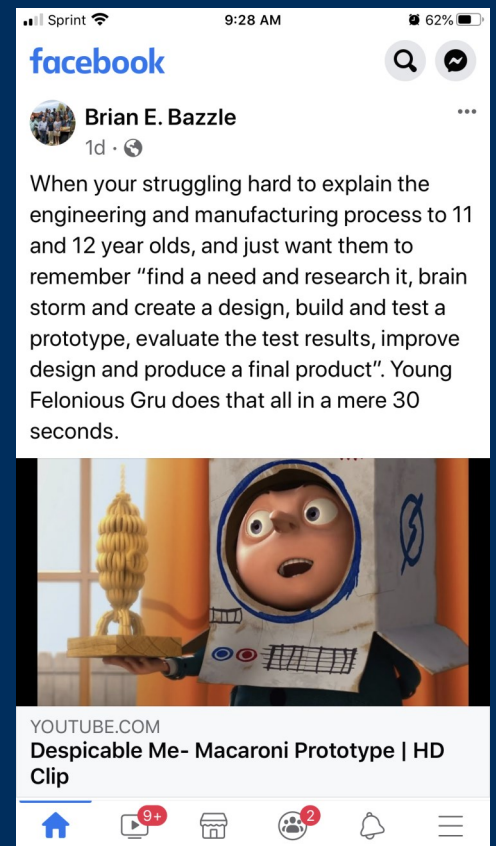
We are now using Peardeck in our presentations with Google Slides to get more engagement and not feel like we're talking to ghosts and conducting a séance.

Looking forward to the day I am back in my shop! Everyone take care, stay safe and healthy.

Let's Get Social!

Here's what you're posting about!

Rick Dye
Louisa County Middle

Louisa County Middle School Technology Education program is running on a blended schedule. I get to see my students one day a week. The virtual lessons are informative and enrichment for the hands-on time we spend in class. Our latest unit was an engineering by design 3d print drawer handle design. We pretended our lab was the international space station and we needed to send up stl. files
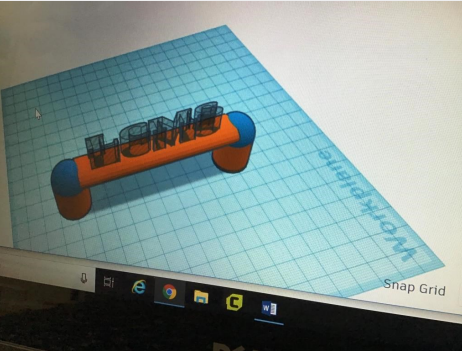
of our designs to be 3d printed to solve the problem of broken drawer handles .

Student's joined their TinkerCAD class and started to engineer their solution. The students designed from home on their Chromebooks and started sending me

their designs here at school. Years ago the lab was vandalized and most of the drawer handles were destroyed.

The information for designing their solution was given to them in an engineering notebook.

Engineer notebook

Designer _____
10-1-2020

Problem : design and 3d print replacement

handles for drawers.

Aesthetically pleasing to the eye, sturdy, needs to fit existing

drawer fronts. LCMS needs to be placed on the handle as letter holes.

Example of drawer handles   Google images

Size from hole to hole or hole width   10 cm

Diameter of the hole in cabinet drawer front 6mm

Screw size - diameter of the threads 5mm

Be creative   (fish) functional , interesting, simple, honest use of materials

Screw protrudes 12 mm from drawer front.

Holes for screws in the handle should be 4 mm in dia.

Design virtually print and attach during class.

Save file as STL. Convert in class to Gcode for LUZBOT printers.

My extended notes:

We have had quite a few designs not meeting their requirements but students are learning from their mistakes. Dimensions, grouping - ungrouping, aligning and mirroring tools are starting to be applied and understood by the students. Com-

municating with the students in Google classroom has been helpful with assignments. I like our 3-d print projects to solve a problem and be useful, not just a printed trinket. Once we started attaching the handles a student suggested we recondition the drawer fronts, that may happen as a future project.

This is a website that makes cardboard engineering practical lots of different TechEd classes. Look under the **Learn** tab to see **Mechanisms**.

Robb Dudek
Williamsburg Middle

Arlington Public Schools Provide Students with Tech Crates

When it became apparent that school would be in a distance learning model for the near future; the Technology teachers in Arlington begin the process of determining what we need in the hands of the Middle School students to duplicate the experience that they normally get in the labs and shops at school.

We coordinated with our CTE Director Kris Martini to provide them with a cardboard box filled with basic measuring and layout tools and supplies for the students to build smaller projects at home. The first task was the measuring tools and production tools which include rulers, compasses, protractors, tape measures, and scissors. We wanted the students to build with cardboard that they would have in their house, and we suspected that the scissors would not be up to the job. Several of our teachers had used a **safe alternative to a box knife or X-Acto Knife in their classes called a Canary Cutter.** We moved forward with getting approval for the safe alternative, which we include in our Tech Crate. All the middle school technology students received this tech crate; and the teachers customized them for the individual projects that they wanted to build. The various items ran the range from Popsicle sticks, button batteries and copper tape, balsa wood, and pipe cleaners.

The parents picked up the Tech Crates from school and we were off assigning projects that they could make using the tools. We have done a cardboard Avatar, paper rollercoasters, and balsa wood bridges. The students really enjoy the designing and building projects that we have been able to offer.

5

Tim Vaughn
**E. H. Marstellar Middle School**

Virtual learning in Technology & Engineering Education classes at PWCS middle schools is a challenge, but in my experience from the first quarter, not as challenging as it is for some of the other subjects. Just one example is our use of CAD software. Before the pandemic, we used AutoDesk Inventor in class. When we realized that we would be doing virtual learning for the immediate future, our cohort of middle school Technology & Engineering Education teachers came up with an excellent alternative for our students. We are now using OnShape, which is a free online cloud-based CAD program, quite similar to Inventor, and which had a small learning curve for the teachers. OnShape works on Windows, apple and Chromebook devices, which was a priority for us. The students who previously used Inventor have seamlessly adapted to OnShape, and new learners pick it up really quickly. The projects can be saved in various formats, one of which allows 3-
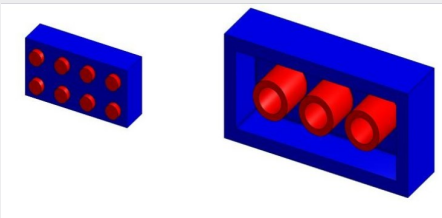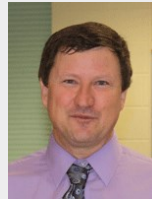

D printing.
Some students have now begun to design their own phone cases, which I will print out on the school 3D printers. This has not been an ideal situation for all of us, but I am making the experience as realistic as possible for the students.
Below are student drawings of a Lego Brick.
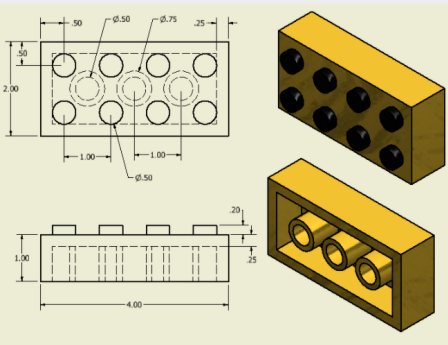
Stuart Rawlings
Cave Spring Middle

As you know, our school universe has grown this year. It is no longer the hallways, classrooms, labs and sports fields. It now incorporates student's living rooms, backyards, and wherever they can find an internet connection. Accordingly, my lessons have grown to meet this new space. One project in Digital Imaging that meets this new challenge is our Postcard Challenge. Students are tasked with taking pictures that represent CSMS and using Photoshop to apply filters and text to create a series of postcards that represent our school. This year that

means mom and dad standing in for a staff member, brothers and sisters standing in for students, pets as models, and home as their CSMS extension. This has resulted in some truly awesome images showing us what the new CSMS family looks like. Take this opportunity to expand your old ideas into a wider world!

James Grafton
Herndon Middle
Project Supply Bags

I was never a fan of Just – In – Time (JIT) manufacturing principles being applied to my class over recent years. As a tech teacher we are always putting aside materials or ordering a little extra to give to the students who want to develop an idea of their own or redo something they cut 50mm too short.
On returning to school, knowing there would be no lab fees, I started opening every drawer and closet. Piles and trays started appearing everywhere. I would finally be able to use the bag of 500, #64, 3½" x ¼" rubber bands I found thrown out three years ago. The marbles from a tic-tac-toe project 25 years ago would now be used in a roller coaster and marble drop project. I used my best British accent to acquire the school supply of jumbo paper clips from the front office. "Hey, hasn't the principal gone fully digital, surely she won't need this old-fashioned stuff? Straws, cups, 16ft of string, 16ft of fishing line, index cards, dowels, paper, and not to mention photo copied materials. Over two weeks, 150 piles of supplies took up all the benches in the fabrication lab.
I hijacked every cardboard box in the building, sometimes even before the FedEx driver delivered the contents to the front office. My head was about to explode when my school came through and I was able to include masking tape, scissors, Elmer's glue and robust plastic bags. It goes without saying a pair of goggles was added for good measure. Safety first!
Four days of materials distribution and several house calls later, Engineering 1 & 2 was ready to rock & roll. I've had the odd, "I haven't got that" to which I reply, "look in your bag" followed by "oh yes, I found it".
Although challenging to get together, these materials are being turned into Mars Rovers, Space habitats, marble drops, roller coasters, trusses and model houses. Students are measuring, cutting, planning, and problem solving. Every week students take pictures and reflect in their Digital Notebooks. For at least a

part of the day students can turn their eyes away from the computer screen and create something with real materials. For my part, I've enjoyed looking at how creative my students can be! 6

Sam Turner
Holman Middle

Professionally we have had a few members meeting virtually who are affiliated and participated in the Virtual Regional Fall Rally. We are optimistic about submitting items for the Fall competition. Also, I found and shared this link for paper airplanes with students. It was well received and everyone enjoyed the project immensely.

The link is Longest Paper Airplane Flight-https://youtu.be/wedcZp07raE

This just in from Guinness: "The farthest flight by a paper aircraft is 69.14 meters (226 feet 10 inches), achieved by Joe Ayoob and aircraft designer John M. Collins (both USA), at McClellan Air Force Base, in North Highlands, California, USA on 26 February 2012." We're officially recognized by Guinness as world record holders!

Michael Goddard
James Wood Middle

I'm new to the teaching side of the Tech and Engineering world as I transitioned from the U.S. Navy as both an enlisted and officer. I was a Machinist Mate 1st Class working on the USS Trenton in the Machinery Room #2 where I conducted maintenance and operated a 600 lbs. Foster Wheeler Boiler and all the supporting equipment. I went to the darkside as an officer and served as the Administrative Officer and

Auxiliaries Officer on two ships over my 15-year career. I enjoy what my students have designed on drafting paper and Autodesk Inventor CAD software. They have designed CO2 Dragster, drone parts, to medical technology. We have used our MakerBot 3D printers to create prototypes or used tools from our expansive wood working shop to build them from scratch. We recently completed **our section on developing sustainable energy and power designing and building solar powered cars and creating windmills** as well. I am working with local professionals and will start a "Professional Friday '' seminar series each week so that kids are exposed to jobs they may not even have known existed.

Dave Curry
Admiral E. Byrd

During the end of the 2019-2020 school year, teaching virtually was frustrating. We had been ready to start making CO2 dragsters and candy dispensers when I got back to school following the ITEEA Conference. Well, that day never came. The kids had been looking forward to getting back into the material processing lab and getting to work. Instead, they got a variety of digital projects that were less than ideal.

In Frederick County, each school had its regulations for how much time could be spent on core and elective classes. While more time would have been beneficial to learning about technology and engineering, it was more important to keep workloads manageable because every child had a different situation. Some did not have time to worry about schoolwork because they had to look after their younger siblings, some may have been alone most of the day for the first time. This year,

Frederick County started the year off as a hybrid model. Teachers across the County were nervous about how everything was going to work and how much additional work would be piled onto them when they are inundated on a normal day. After sitting through countless meetings about sanitizing procedures, management of student flow throughout the buildings, synchronous and asynchronous expectations, teachers that had been looking forward to getting to see students again were becoming hesitant, wondering if returning to school was a wise decision.

Being nine weeks into the school year, the hybrid model was the way to go. It has been great, overall. Only seeing seventh and eighth-grade students twice a week and sixth once a week sounded terrible but having smaller class sizes has made it manageable to finish projects in half the time. Students are happy to be in school, discipline issues have been nearly non-existent, and helping students one-on-one is far easier with eight students than with 24. Even lunch duty has been enjoyable, not stressful.

To handle "off-days", I have found that running two similar projects parallel to one another works well or having students gear up for the next project at home while working on the current project in school. For example, we had students start designing their CO2 dragsters using **Whitebox Learning at home** while we were still making our first manufacturing project. Or our seventh-grade students were designing images to engrave in their basketball game backboards while we were cutting and sanding pieces for the game. We were able to engrave the designs as they finished sanding their backboards, before assembling the project.

Announcing a new **Selfie Contest**

*The Technology Education& Engineering teacher that **best** shows what teaching in a COVID-19 world looks like.*

Win a $50 dollar gift card of your choice (Chain restaurant, Amazon, Lowe's or Home Depot.

◊   Must be an original photo of yourself taken by you (..hence a selfie)

◊   Must have been taken and posted online between October 30—November 30, 2020

◊   Sherando High TSA members will be the sole judges. They are fundraising to provide the prize.

◊   Must be posted on at least two public accounts of either Facebook, Instagram, or Twitter

◊   Each entry must have **#vteea** , **#TechEdRules!,** and a caption describing what we see.

◊   Enter as many times as you wish before the deadline date.

◊   CTE Administrators and Elementary STEM folks are welcome to participate.

Win a $50 Gift Card

Question? - Send Ron a text for a ruling.

7

Jeffery Wilt
Mercer Middle School

I don't know about anything ground-breaking or huge that I'm doing, but I would share this from what I've experienced to this point. (Opinions and thoughts expressed are not necessarily those of the VTEEA or Loudoun County Public Schools).

When I went home from work this past Wednesday, March 11th, I had scheduled to take off the next day for a doctor appointment for my daughter and get back to work that Friday. Little did I know that Wednesday would turn-out the be the last day with my students for the rest of the year. I was able to get back to the building within the next week to clean-up the shop, organize the tools and materials and store things for what I then believed to be the rest of the quarter.   At that time, I was already looking forward to a return to the school for the fall for a fresh start.

Strange how things have happened since then! We have all experienced so many different thoughts, emotions and impacts upon our lives in having to deal with the shift brought on by the pandemic. Even as an experienced instructor, learning a new system of teaching, to say nothing of teaching without a lab, has been the most challenging phase of my 28-year career.   We have all been forced to do things differently, 'build the ship while it's sailing,' and try to figure out to keep students engaged in our content through the Distance Learning environment.

Of course, trusting students to take the reins for a big portion of their own learning while managing them from a distance, along with ensuring their mastery of content and assessing their learning, is a juggling act unlike any we've had before. So how do carry out our teaching and make it happen for students? Honestly, most of us are still learning how to do it - it's day-by-day and we're all trying to balance the work within our profession, managing our personal lives and families, and making sure we have our masks and hand sanitizer at the ready. None of this is over yet and won't be for the short-term.

Things are compounded for those of us with school-aged children: our 4th-grade daughter has her online classes each day for her all-virtual learning from the wife's office, I'm in my 'basement' office for my teaching, while the wife has recently reported back to her school for hybrid teaching her middle school teaching. I've become my daughter's STEM teaching assistant at home, helping with projects and experiments for her Distance Learning. Having to play multiple roles of Husband and Father at home, along with 'Teacher' for my middle school students and my daughter has certainly been a different balancing act with the pandemic.

Along with schools adjusting for students through DL and Hybrid models, we all know of the changes happening daily. Living outside of Loudoun County, my wife shared with me the thoughts of a colleague that school re-openings and re-closings is like playing 'Whack-a-Mole' - with every reported case of COVID-19 comes the 'spot' closing of the school or change to staffing and student presence within the building. It was changing each week but now seems to be day-to-day, as well.

So, as I sit in my recliner this sunny Election-Day morning, having been first in line to vote this morning, as I have for many years, I wonder how things will go in the coming months of this semester. For now, many of us will continue teaching in our virtual world and wait patiently for our lives and professions to get back to some form of normal. I suppose only time will tell what that will be like when we get there - hopefully sooner than later!

Parkis Kennedy
Glade Spring Middle &
Damascus Middle

I spent much time during my younger years canoeing and fishing the New River, James River, Clinch and Holston Rivers. There were rare occasions in which I found myself in situations requiring me to switch my skill set from canoeing and fishing to survival and re-covery. As a Technology teacher in my 40th year I find myself in a survival and recovery situation requiring different skill sets than I am familiar and comfortable with, but keeping in mind that recovery will take place, and as I continue my journey I will have new skills that I can rely upon.

The challenge has been significant with teaching a class that has traditionally been mostly hands-on transforming to a class that is sometimes totally virtual, and sometimes hybrid with some students still totally virtual. Add to this the challenge of teaching in two schools with students on different rotations in each school.   It is difficult to keep track of which lessons each of my six classes are working on at any given time.   Some of my students have the internet at home, some don't, and some have very slow internet access.

To deal with these challenges I have found it necessary to dig through my tackle box and pull out the things that are most useful and productive considering the given circumstances.   I have **relied upon the ability to teach coding skills with code.org, Ozaria, and CodeCombat.** I have also found Tinkercad to be very useful to teach my students to create 3D models and build circuits. **FoldNFly** has proven to be useful to teach aerospace skills. And, **Incredibots** is a useful tool for teaching students to build virtual machines at home.   I use **Screencast-O-Matic** to create instructional videos for my students to watch and Google Classroom forms that they can use to submit their work.

VDOE inspired Collaboration Effort

Ron Vickers

Back in July I remember getting an email from Dr. Lynn Basham with dates and times for "Technology and Engineering Education Meetings on Zoom". Her effort was made to recruit volunteer hosts to organize Q &A on the different contents we teach. I clicked into one and enjoyed seeing and talking to a couple of teachers about a class I was scheduled to teach. A s far as I know, there were not many follow up meetings and the effort fizzled out. It did encourage me to try out Google Meets for some folks I felt comfortable with to see how this might go. I was hoping to begin a beautiful relationship with someone that would make my upcoming school year a bit easier. While I'm still working on that, I did make the connection with Kevin from WAHS that turned into what was reported on earlier in this issue. Below is the listing of teachers that agreed to host the initial meeting. I have no idea if they would want to spend more of their time but it may be worth a try .

#	A — Program/ course	B — Lead Teacher	C — email
1	Program/ course	Lead Teacher	email
2	PLTW High School Program	George Bishop	geobishop1961@gmail.com
3	PLTW Middle School	carol medawar	cmedawar@pltw.org
4			
5	Introduction to Technology	Alisa Rushing	alisa_rushing@ccpsnet.net
6	Technological Systems	Debra Shapiro	debrashapiro@spsk12.net
7	Inventions and Innovations	Kathleen Stansberry	vteeaexec@gmail.com
8	Engineering	Olimpia Stein	piutza@gmail.com
9	Electronics	Chuck Thomas	wormcastle@icloud.com
10	Materials and Processes	Byron Clemsen	clemsen@wps.k12.va.us
11	Manufacturing	Aaron Meyer	Aaron.Meyer@nn.k12.va.us
12	Technical Drawing and Design		
13	Engineering Drawing and Design	Michael Johnson	mejohnson@rcps.us
14	Architectural Drawing and Design	Katrina Owens	kowens@nps.k12.va.us
15	Communication Systems		
16	Digital Visualization	Dawn Rountree	dawnrountree@spsk12.net
17	Modeling and Simulation	Jacob Leonard	jleonard2@wcps.k12.va.us
18	Aerospace	Erik Kittleson	ekittels@LCPS.ORG
19	Construction Systems		
20	Graphic Communications	Britney Carper	CarperB@fcpsk12.net
21	Imaging	Maurice Frazier	maurice.frazier@cpschools.com
22	PT	Cloria.Barnard	Cloria.Barnard@cpschools.com
23	T of Robotic Design	Ray Wu Rorer	wurorrerr@fccps.org
24	Technology Foundations	Jenae Edwards-Jones	jenae_edwards@surryschools.net
25			
26			

Share Your News

We know you know things that others don't yet, why not get it published?! VTEEA wants to spread the word to educators with similar interests to yours. You can write about any content relating to Technology, Engineering, and/or Education. Please consider adding a picture to enhance your article.

Don't overthink this, take the 10 minutes to share your news. It does NOT have to be perfect, we'll clean up the prose! I'd love to know what is happening in your neck of the woods. You can email me, send a text or even call.

Give me a shout and I'll try to make you famous in our world!

Ron Vickers, Publications Editor

Let's Communicate with Each Other!

From the information above, one can contact any one of the master teachers on a subject to ask for ideas on how best to teach your subject in this COVID mess. One can also go to our association website www.vteea.org and /or www.iteea.org to find lots of resources might help. Below is a screen shot from the VTEEA Board featuring the 6 regional presidents. They are all volunteers and need your help. Consider contacting him/her and see what we can do together for the region!

APRIL PEACOCK
Blue Ridge Regional President*
Christiansburg Middle School
540-394-2180
Term Expiration: July 2021

ROBB DUDEK
Northern Regional President*
Williamsburg Middle School
703 228-5450
Term Expiration: July 2021

HEATHER RUSSELL
South Central Regional President*
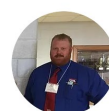Ecoff Elementary
804-768-6185
Term Expiration: July 2021

DUSTIN CARTER
Southwestern Regional President*
This could be you! Join our board and help support STEM education.
Term Expiration: July 2021

SAN ANTONIO CROSBY
Tidewater Regional President*
King's Fork High School
757-923-5240
Term Expiration: July 2021

BRIAN BAZZLE
Valley Regional President*
Montevideo Middle School
540-289-3401
Term Expiration: July 2021