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Upcoming Events:

1. Ohio Education Summit, OTEEA Conference, Fall, Marion
2. [ITEEA's Inaugural Fall Virtual STEM Conference](#), November 4-8, 2024
3. [ITEEA 2025 Conference](#), April 2-5, 2025, St. Louis, MO

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ITEEA's Inaugural Fall Virtual STEM Conference

ITEEA will bring together technology and engineering educators and advocates for a dynamic exchange of ideas, best practices, and insights at its Inaugural Fall Virtual STEM Conference! With an accessible, inclusive, and diverse program featuring over 40 live and prerecorded sessions led by teachers, industry leaders, and STEM partners, attendees will gain valuable knowledge and practical strategies to enhance their teaching practices and drive student success.

[Register For Iteea's Inaugural Virtual Conference](#)

[Learn More About The Conference](#)

The online event aims to unite educators and facilitate meaningful connections and knowledge exchange by:

- Providing varied opportunities to learn from and interact with peers, industry leaders, and

STEM partners from across the globe;

- Blending live sessions with prerecorded, on-demand content, to cater to the varied schedules and preferences of attendees; and
- Offering a platform for active engagement and community building before, during, and after the event.

From cutting-edge pedagogical techniques to the latest advancements in technology and engineering, ITEEA's inaugural Fall Virtual STEM Conference promises to be a space where inspiration meets innovation!

How To Make Your Online Data More Private

You do have some control in how much data you share online.

[Watch four minute NOVA video](#)

The Engineering Design Process vs. The 5E Model

[STEM Education Works®](#)

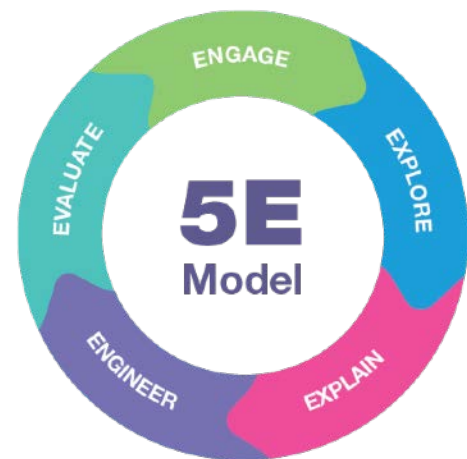
As STEM education becomes increasingly more prevalent, so will the abundance of systematic approaches. What follows is a whirlwind of trial and error; methodologies are piloted, explored, promoted, rejected, etc. Currently, two methodologies have been at the forefront of my own exploration, and these have become the basis for which I design our STEM curriculum: The Engineering Design Process (EDP) and the 5E Instructional Model. Now, before I divulge these methodologies, please take note that this is based solely on my experiences and my research in the field. This does not mean that there aren't other methodologies out there that are not equally effective. Both the Engineering Design process and the 5E model are used to streamline complex tasks and promote innovative thinking, but they serve distinct purposes.



Overview of the Engineering Design Process

- Definition: The Engineering Design Process is a series of steps that engineers follow to come up with a solution to a problem. It's iterative, meaning steps are repeated as needed.

- Steps Involved:
 1. Ask: What is the problem?
 2. Imagine: Collect relevant data and information.
 3. Plan: Select the most promising idea and develop a detailed plan.
 4. Create: Bring the solution to life by building a prototype or model.
 5. Test: Conduct tests to evaluate the prototype's performance
 6. Improve: Refine and enhance the solution



Overview of the 5E Instructional Model

- Definition: The 5E Model is an instructional design model used in education, particularly in science teaching, to promote active learning and student engagement.
- Stages Involved:
 1. Engage: Captivate students' interest and stimulate their curiosity.
 2. Explore: Construct new knowledge through student-centered activities
 3. Explain: Facilitate understanding through discussion and explanation.
 4. Engineer: Apply new knowledge and skills.
 5. Evaluate: Assess learning and skill development and encourage reflection.

Key Differences

- Purpose:
 - Engineering Design Process: Provides a structured approach for solving problems and creating effective solutions.
 - 5E Model: Focuses on teaching and learning, particularly in science education, to deepen students' understanding and engagement.
- Steps and Structure:
 - Engineering Design Process: Iterative, with a focus on problem-solving, prototyping, and testing.
 - 5E Model: Linear progression designed to build knowledge and understanding through active learning phases.
- Application:
 - Engineering Design Process: Used by engineers and designers to develop new products, systems, or processes.
 - 5E Model: Used by educators to design and deliver lessons that facilitate deeper understanding and retention.

Practical Examples

- Engineering Design Process Example: Developing a new type of eco-friendly packaging material. Steps would include defining the need for sustainable packaging, researching materials, prototyping various designs, and testing their effectiveness.
- 5E Model Example: Teaching a lesson on ecosystems. Start by engaging students with a video on endangered species, exploring local habitats, explaining the balance of ecosystems through interactive discussions, elaborating by having students design their own ecosystems, and evaluating through quizzes and projects.

The Engineering Design Process and the 5E Instructional Method are a dynamic duo of innovative thinking and problem-solving. Through my journey as a STEM curriculum writer and

professional development specialist, I've discovered how these two methods complement each other perfectly. I use the Engineering Design Process to amplify the 5E Model, especially during the engineering phase, in the [STEM Education Works curriculum](#) I develop.

By blending these methodologies, we can spark creativity, critical thinking, and problem-solving skills in our students. Whether designing an invention or creating an engaging lesson plan, these frameworks offer the perfect recipe for success.

– Chauntée Pitts

6 LEGO Vehicles Vs. 6 Obstacles

[The Kid Should See This](#)



Building and testing different design solutions is at the heart of [engineering](#), and the [Brick Experiment Channel's LEGO challenges](#) continue to vividly illustrate this process.

In [this vehicle obstacle course video](#), six unique LEGO vehicles—from a simple car to an intricate walker with a pivoting tail to a single big LEGO wheel—attempt to conquer a gauntlet of obstacles that test their mobility, stability, and overall performance.

[Read more and watch video](#)

Strategies To Govern AI Effectively

[Issues in Science and Technology](#)

Advances in artificial intelligence are accelerating scientific discoveries and analyses, while at the same time challenging core norms and values in the conduct of science, including accountability,

transparency, replicability, and human responsibility—difficulties that are particularly apparent in recent advances in generative AI.

In early 2024, the National Academy of Sciences, the Annenberg Public Policy Center of the University of Pennsylvania, and the Annenberg Foundation Trust at Sunnylands convened an interdisciplinary panel of experts to explore challenges posed by the use of AI in research, which led to an editorial, “[Protecting Scientific Integrity in an Age of Generative AI](#),” published in Proceedings of the National Academy of Sciences. The panel’s discussions and resulting editorial were informed by a series of papers detailing the development and current state of artificial intelligence technologies; the potential effects of AI advances on equality, justice, and research ethics; emerging governance issues; and lessons that can be learned from past instances where the scientific community addressed new technologies with significant societal implications. In an effort to enable further discussion of AI and governance, condensed and edited versions of those papers are presented here.

[Read more](#)

coaches, pre-service teachers, curriculum leaders, professors)

- **Information Technology:** Sessions are for attendees in IT fields and learning experiences.
- **Leadership:** Sessions focus on attendees who are leaders in education (superintendents, principals, treasurers, district administrators, business officials, operations managers, facilities managers)
- **Library/Media Specialists:** Sessions are offered for those in the library and media specialist fields.

There are many ways to incorporate technology into the classroom and we will offer sessions geared to the different groups who have a hand in student success. While drafting your proposals, take a minute to [review the keywords](#) that will be the hot topics at the conference in Feb. Potential presenters can find helpful documents, including the [session submission guide](#) and [poster submission guide](#), on oetc.ohio.gov. Proposals are due by Sept. 15.

Please reach out to info@oetc.ohio.gov with any questions.

Attendee registration and exhibitor and exhibitor sales are coming soon. Stay tuned!

STEM Is Elementary

STEM
IS ELEMENTARY



The June issue of STEM is Elementary is [available here](#).



The Ohio Educational Technology Conference (OETC) [opened the call for session presenters](#) and [poster sessions](#) on May 24 and both will close on Sept. 15. OETC25 will focus on the theme of “**Innovation. Access. Collaboration.**” OETC will be at the Greater Columbus Convention Center on Feb. 11-13, 2025.

Those who are interested in presenting will want to gear their session or poster presentations to one of the four audience types when submitting proposals:

- **Instruction:** Sessions are geared toward anyone in an educational role (teachers, instructional technologists, educational



Technology and Engineering Education News and Resources

Activities, Contests, Student Opportunities, and New Technologies

The Application to Present at ITEEA's 87th Annual Conference in St. Louis Is Now Open!

Mark your calendar for the ITEEA Annual Conference in St. Louis on April 2-5, 2025.



The conference theme, "Gateway to the Future: Innovate, Connect, and Thrive," captures the essence of our gathering. Set against the majestic Gateway Arch, St. Louis provides a fitting backdrop for our exploration into the transformative potential of technology and engineering education. This year, we come together to delve into how educators can harness innovation to create

lasting connections and drive us all towards collective success.

Again this year, ITEEA will be utilizing online submissions via Cvent to make the process more intuitive and user-friendly.

[APPLY TO PRESENT AT ITEEA'S 87th ANNUAL CONFERENCE](#)

NEW Application Deadline:
August 31, 2024

State Science Day Highlights



May was an inspiring time for students and teachers across the state! Drawing upon a base of nearly 5,000 students, 636 students representing 169 schools across Ohio competed for \$500,000 in sponsored awards and scholarships at State Science Day.

Several Ohio Departments and Centers fund awards for State Science Day. The Governor's Thomas Edison Awards include

Excellence in Student Research in Advanced or Alternative Energy; Advanced Materials, Biotechnology and Biomedical Technologies, Environmental Protection Research; and Information Technology. Sponsors for the Governor’s Awards are the Ohio Development Services Agency (Technology Division), the Ohio Environmental Education Fund, and several Edison Technology Centers.

Additionally, several key sponsors also supported students with additional awards. The Ohio Tuition Trust Authority recognized elementary and middle school researchers by awarding The College Advantage 529 Plan Award, and the Broadcom Foundation provided the Coding with Commitment Award.

Congratulations to all student participants!

A complete listing of awards and recipients can be found at: <https://ssd.ohiosci.org/2024-state-science-day-celebration/>

Title Sponsors include the AEP Foundation, Amgen Foundation, Honda, and the Ohio Tuition Trust Authority – College Advantage, Ohio’s 529 College Savings Plan.

State Science Day also receives key support from Battelle, Broadcom Foundation, CAS, Charles River, Kent State University, Kokosing, Ohio EPA – Environmental Education Fund, and Taft Law. This event would not be possible without the support from The Ohio State University!

[Here are photos from the event!](#)

[Visit the 2024 Project Showcase](#)

Empowering Innovation: the Inspiring Journey of “Monster” Mike Schultz in Prosthetic Design, Athletic Achievement

[MachineDesign](#)

Discover how Schultz’s collaboration with Protolabs has transformed prosthetic design and

enabled state-of-the-art advancements for athletes at all levels—from recreational enthusiasts to elite athletes.

[Read more and watch video](#)

Picking Precision: Advantages of Robotics in Agriculture

[MachineDesign](#)



To address the challenges of harvesting strawberries—not enough labor, ripeness accuracy, pick quality and food safety—Harvest CROO Robotics has been designing and manufacturing a modern engineering marvel.

[Read more](#)

Educator Webinars on Demand Free on the GBH Education YouTube Channel

Did you know what most of GBH Education’s educator webinars are recorded and posted on YouTube? You can watch or re-watch on demand!

GBH Education has many webinars for science teachers of grades 6-12, covering subjects such as integrating digital media, science & society, STEM careers, supporting English learners, etc.

Explore [our YouTube channel for more](#), and [subscribe](#) to be alerted when new recordings are posted.



Can prairies and schools bloom together?
Come find out how!

Jim Reding, Environmental Studies teacher at Granville High School, will present the amazing story of how his students created a 100-acre land lab outside Granville's Intermediate School, with vernal pools they helped restore, a simulated stream they helped construct, bat boxes they put in... along with dozens of other projects, including over 2000 trees the nearby elementary students planted! How did such things happen? As a direct result of hands-on, place-based, student-directed project learning!

Re-Envisioning Land & Learning:

The How's & Why's of the Granville 100-Acre Prairie Learning Lab

A Workshop with Jim Reding

Winner of the North American Association of Environmental Education Award

Deer Haven Park, 4183 Liberty Road / Delaware, Ohio

Friday, June 14 / 1:00 – 4:00



North Central Ohio
Pollinator Pathway



\$20 admission includes light refreshments / Limit: 35

Register at:

<https://eeco-online.org/event-5736465>

Co-Sponsored by EECO, Preservation Parks & the North Central Ohio Pollinator Pathways Initiative
1:00 – 2:00 > Talk by Jim Reding, with panel discussion and ideas on how to start your own school prairie!
2:00 – 4:00 > "Educating With Prairies" with Preservation Parks naturalists (come dressed for outdoor learning!)

Attention teachers of all grade levels and subjects and anyone else who wants to help students learn outside! Join us on Friday, June 14 at Deer Haven Park in Delaware County for an afternoon of learning, discussion, networking, and fun as we hear from Jim Reding of Granville Schools. He will share about the amazing 100-acre prairie his students created under his guidance. His presentation will be followed by a panel discussion, and then you will have the opportunity to engage with naturalists from Preservation Parks of Delaware County to generate your own ideas to use in your setting.

For \$20 you will have access to the keynote presentation, panel discussion, light locally-sourced refreshments, and outdoor learning sessions led by Preservation Parks naturalists. You will leave with lots of new ideas, inspiration, and a network of people to help support you. Invite a friend or your whole team to this summer event!

[Click here to register for this event.](#) If you have questions, please contact [Josh Flory](#) for more information.

Coffee Filters Aren't Just for Coffee

[Better Report](#)

Whether you enjoy a fresh cup of Joe [every morning](#) or aren't much of a coffee drinker, everyone can enjoy the wide-ranging benefits of

[coffee filters](#). These inexpensive and absorbent paper strainers can be used for various uses beyond the [coffee maker](#), coming in handy in the living room, bathroom, and even the garden. Here are a few places where you can use coffee filters to your advantage.

Some examples

- Prevent Microwave Splatter
- Dust Screens
- Absorb Oil

[Read more](#)



3 Ways Students Benefit From Hands-on Learning

Hands-on learning engages students and helps make their learning visible, but it provides so much more than that.

If you're considering ways to integrate more hands-on learning in your classroom or district, [check out our blog](#) where we explore three ways this approach can leave a lasting impact, preparing students for their future.

[Learn more](#)

Additional Resources

- [STEM Activity: DNA Animal Mashup](#)
- [Inspiring Students Through Authentic Problem Solving](#)
- [STEM Activity: Create Your Own Spacepack](#)



Five High Schools in Cuyahoga County Will Soon Be Powered, in Part, by Solar Energy

Cleveland.com

Five Cuyahoga County school districts will soon get a share of their energy needs from the sun. The county's Solar for Schools program will provide \$100,000 each to school systems in East Cleveland, Maple Heights, Euclid, Cuyahoga Heights and one other district yet to be named. Each district is planning to install panels at their high schools, said Valerie Katz, interim director of sustainability for Cuyahoga County. In most cases, the arrays will go on rooftops, with one site considering a ground-mounted installation.

[Read more](#)



The Rise of Artificial Intelligence: Impact on College and Career

A Crucial Conversation With: Dean Ayanna Howard, The Ohio State University College of Engineering

Dr. Bertley and Dean Howard had a conversation about AI on [an episode of his TV show QED with Dr. B](#) – this Science Meets Society conversation will serve as a continuation of that, leaning into Dean Howard's expertise to unpack current implications of AI, particularly on collegiate studies and jobs/career selection.

Wednesday June 26, 4:30 - 7:00pm
Ground x Grind
1106-1108 E Main St, Columbus, OH 43205

Admission to this event is FREE, but pre-registration is required.

[Reserve your seat](#)

How To Draw 3D Skyscraper Anamorphic Illusions

[The Kid Should See This](#)

Anamorphic perspective tricks the eye with a distorted image that appears three-dimensional when viewed from a specific angle. This illusion takes advantage of our brain's expectations of perspective rules seen all around us. When the brain corrects the visual distortion, the image seems to rise off the page.

The [Circle Line Art School YouTube channel](#) by artist Tom McPherson demonstrates [how to draw this architectural illusion](#) in the videos above and below. Keep in mind that he's had a lot of practice and draws freehand; using a ruler helps replicate this technique.

Welding a Penrose Triangle

[The Kid Should See This](#)



Germany-based metalworker [Hassan Abu-Izmero, Habu on YouTube](#), keeps the angles precise as he cuts and [welds a Penrose triangle](#) from a square tube.

A **Penrose triangle**, also known as the impossible triangle or the tribar, is a classic optical illusion that challenges our perceptions of spatial relationships. When viewed from a certain angle, a Penrose triangle appears to be a three-dimensional object made from three straight, yet geometry-defying beams that form a triangle. When viewed from a different perspective, the illusion is revealed.

[Read more and watch video](#)

Edgewood Middle School Students Race Cardboard Boats for ‘the Boys in the Boat’ Unit

[InkFreeNews](#)

WARSAW, IN — Edgewood Middle School’s seventh and eighth grade classes took to the water in cardboard boats as part of the class’ unit based on the book “The Boys in the Boat” by Daniel James Brown.

“The Boys in the Boat” is a nonfiction story about “how nine working-class boys from the American West showed the world at the 1936 Olympics in Berlin what true grit really meant,” according to Brown’s website. The book was adapted into a PBS American Experience documentary “The Boys of ‘36,” and a 2023 film “The Boys in the Boat.”

Edgewood Middle School Principal JoElla Hauselman said a staff member proposed students read the book, and that a discussion with staff resulted in the reading becoming a Project-Based Learning Unit, which covered topics such as music, cooking, science, math and history.

“It is just a fun experience, a learning experience to finish up the year well,” said Hauselman. She said that 500 students participated in 30 teams which designed the boats.

[Read more and watch video](#)

Educational Service Center of Central Ohio Course

[Project Innovation: Cardboard, Circuits, and Code](#)

June 20-21

In this two-day course, participants will work through the design process to create physical products from cardboard. Ozobots, Makey Makey, and the Hummingbird kits will then be used to incorporate codable functionality into these cardboard creations. After the in-person session, participants will reflect on the two days, create and

implement a lesson, and then share their successes and struggles in a virtual gallery walk. Participants will receive the following equipment after the conclusion of the in-person portion:

- 2 Makey Makey Classics
- 2 Craft and Code Booster Kits
- 1 Ozobot Evo Entry Kit
- 1 Ozobot Crawler
- 1 Hummingbird Bit Premium Kit

Unplugged Lessons and Activities for OST Educators

TECH CORPS and the Teaching & Learning Collaborative are bringing the fundamentals of computer science to out-of-school-time educators, empowering them to ignite a passion for STEM learning in children! Join us on a journey from professional development training to real-life practice!

[Watch video](#)

Future City Middle School

2024-2025 Season

Join us for an authentic project that transforms middle school students’ understanding of engineering and strengthens their teamwork, problem-solving, and project management skills.

[Register here](#)

Interested in Future City High School? Future City High School registration will open in Summer of 2024. [Sign up here](#) to receive all High School updates!

City Office Buildings Pump Polluted Air Outside

[Futurity](#)

The new study in the journal [Cell Reports Sustainability](#) states modern buildings continually release volatile organic compounds (VOCs) to outdoor air and are likely to be an important contributor to the VOC burden of the urban atmosphere.

The team conducted direct measurements of outdoor-indoor air pollutant exchange in a high-performance office building using state-of-the-art air quality instrumentation and an advanced building automation platform.

“We traditionally think of filtering the outdoor air entering our buildings. Based on the findings of our study, we now need to consider cleaning the air leaving our offices, homes and schools to reduce VOC [emissions](#) to the outdoor environment,” says Brandon Boor, an associate professor in the Lyles School of Civil Engineering at Purdue University who led the study.

[Read more](#)

A Technique for More Effective Multipurpose Robots

[MIT News](#)



With generative AI models, researchers combined robotics data from different sources to help robots learn better.

In an effort to train better multipurpose robots, MIT researchers developed a technique to combine multiple sources of data across domains, modalities, and tasks using a type of generative AI known as diffusion models.

They train a separate diffusion model to learn a strategy, or policy, for completing one task using one specific dataset. Then they combine the policies learned by the diffusion models into a general policy that enables a robot to perform multiple tasks in various settings.

In simulations and real-world experiments, this training approach enabled a robot to perform

multiple tool-use tasks and adapt to new tasks it did not see during training. The method, known as Policy Composition (PoCo), led to a 20 percent improvement in task performance when compared to baseline techniques.

[Read more](#)

Microcontroller Resources

[STEM Education Works®](#)

Microcontrollers are small computers with processing cores that can be a great tool to teach coding. They provide a low-level access to hardware and a variety of capabilities, making them versatile tools.



Here are some resources that will help explain what you can use microcontrollers to teach, and how exactly you can integrate it into your learning space.

[1. Bridging the Gap Between Block Coding and Text-Based Coding with micro:bit](#)

This blog post introduces block coding as a beginner-friendly alternative to programming that simplifies the learning process through visual and intuitive methods using tools like microcontrollers and MakeCode.

[2. Introducing Coding in the Classroom](#)

Here, the author suggests conducting engaging classroom activities using block coding applications like Scratch and Blockly, and integrating physical technologies like microcontrollers to enhance learning. The blog also highlights the increasing importance of coding skills in the future workforce, noting that coding fosters critical thinking, problem-solving, and various other valuable skills.

[3. The Many Talents of the micro:bit – Compass Challenge Classroom Activity](#)

This post highlights features of microcontrollers, like the micro:bit, and how they can be used to measure Earth's magnetic field and function as a digital compass. The post includes instructions for programming a micro:bit and suggests various classroom activities.

[View All Resources](#)

What Is the Importance of STEM Education in Climate Change and Sustainability Education for Children?

[Scientx](#)

STEM education is an important tool in the successful realisation of climate change and Sustainable Development Goals (SDGs), and individuals working for these purposes must have STEM skills, because there is a strong link between SDGs and STEM education. For example, in the fight against poverty, which is the first goal of SDG, students can offer solutions to the problems of developing countries by designing different technologies thanks to STEM education. In addition, to promote health and well-being, STEM education can train future healthcare professionals by providing students with an understanding of how medical devices and medicines are designed, developed and manufactured.

[Read more](#)

Sidewalk Robots Could Shovel Snow or Act as Crossing Guards

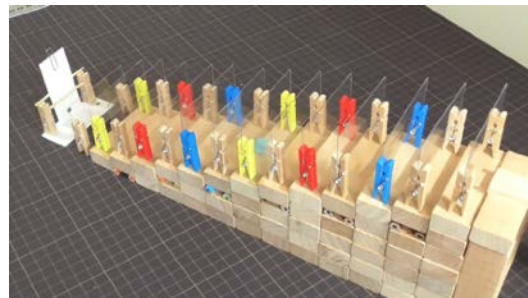
[Futurity](#)

A new study finds that when roboticists and people with disabilities collaborate on robot designs, interesting ideas emerge that could make existing robots more accessible and inspire new uses.

[Read more](#)

How To Make a Marble and Domino “Stair Return” Rube Goldberg Device

[The Kid Should See This](#)



There are not many [Rube Goldberg machine](#) tutorials on YouTube, so it's a delight to find one that demonstrates step-by-step how to make a successful device, along with an equipment list to boot. This [PythagoraSwitch](#) (ピタゴラススイッチ) or Pitagora Suitchi device by [idel machine](#), [Karakuri Workshop #3 “Stair Return”](#), shares how to make a set of Jenga and color pencil stairs along with domino-style cards. A small marble sets the two step device in motion.

[Read more and watch video](#)

What if Your Bike Could Repair Itself?

[The Kid Should See This](#)

Inspired [by our skin](#) and the sealing latex sap of [euphorbia tirucalli plants](#), scientists at startup [CompPair](#) developed healable materials



made from layers of composite carbon fiber sealed in resin.

When there's a crack in a composite carbon fiber bike frame or massive turbine blade, resin is applied and triggered by heat, resealing the damage.

[Read more and watch video](#)

Can Coffee Waste Make Concrete?

[Interesting Engineering](#)

Australian researchers are making pathways using so-called “Coffee Concrete.” The process recycles ground coffee waste and turns it into biochar. That can then be used in the concrete making process.

Coffee and concrete might not seem like they belong together, but Australian researchers have discovered an innovative way to repurpose ground coffee waste. Instead of letting it go to waste, they’re transforming it into biochar, a substance known for its resistance to biodegradation. This biochar can then be utilized in the production of concrete, creating a sustainable solution that benefits both the environment and the construction industry.

[Read More](#)

STEM Catalysts: Bold Insights. Bold Actions.

Welcome to the first webinar in the "STEM Catalysts: Bold Insights, Bold Actions" series, featuring Dr. Holly Miller, Afterschool and Summer Learning Advisor, Dept. of Education, Institute of Education Sciences OST.

During this webinar, you will:

- Gain insights into the impact of the pandemic on STEM education and the role of OST programs in addressing achievement gaps
- Learn about research findings on the effectiveness of OST STEM programs and high-dosage tutoring
- Discover resources and tools available through the Institute of Education Sciences (IES) and the Dept. of Education
- Engage in breakout group discussions to share examples of successful OST partnerships and brainstorm potential new collaborations
- Identify actionable next steps to leverage the insights gained and drive meaningful change in your STEM Learning Ecosystem

[Watch video](#)

Introducing the 2024 STEM Challenge

It's here! The **2024 4-H STEM Challenge, [Food for Thought](#), is now available.** The 2024 kit provides young people with a hands-on experience as they explore food security and its impact on the world, empowering them to innovate and create positive change in their communities.

Developed by Council and 4-H educators from LSU AgCenter, North Dakota State University, Penn State Extension, and the University of Nebraska-Lincoln, the new STEM Challenge is a collection of three activities that engage kids in learning about food production, the supply chain, and food waste, while equipping them with STEM-based skills.

Get yours today on Shop 4-H!

[Purchase Kit](#)

The 2024 4-H STEM Challenge was developed with support from Corteva, HughesNet, Invenergy, and Nestle USA.

People Fixing the World on YouTube



[BBC World Service](#)

Videos from our podcast People Fixing the World - brilliant solutions to the world’s problems. We meet people with ideas to make the world a better place and investigate whether they work.

[Watch here](#)

Creating a Throw-Away Culture: How Companies Ingrained Plastics in Modern Life

Just for a minute, think about how much of the plastic you use today will end up as trash. Drink bottles? Grocery bags? Food wrappers? If you live in the United States, [it'll probably add up to about a pound](#) of stuff — just today.



A trash can overflows as people sit outside of the Martin Luther King Jr. Memorial in Washington, D.C. - Jacquelyn Martin/AP

Most plastic is dumped in landfills or becomes pollution in places like rivers and oceans, according to the Organisation for Economic Co-operation and Development. Along the way, [it sheds microplastics](#) that can [make their way into animals and people](#). Just 4% of plastic in the U.S. is recycled.

It wasn't always this way. But over the past 70 years, plastic has become embedded in nearly every aspect of human life. The world produces around 230 times more plastic now than it did in 1950, [according to Our World in Data](#).

[Read or listen](#)

Microsoft, Khan Academy Partner To Make Khanmigo Teaching Tool Free

[THE Journal](#)

At its Build conference this week, Microsoft announced it has inked an AI partnership with education nonprofit Khan Academy.

Specifically, Microsoft is enabling Khan Academy's AI teaching assistant, dubbed [Khanmigo](#), to run on its Azure cloud platform. The infrastructure support will let Khan Academy offer Khanmigo, which launched last March, to teachers at no cost.

"As your planning ally and instructional collaborator, Khanmigo leverages Khan Academy content to simplify AI for teachers," Microsoft's education team wrote in a blog post Tuesday. "No prompting is required. Khanmigo will help create engaging lesson hooks, provide insights on student performance, recommended assignments, and support for refreshing your knowledge."

According to Khan Academy, the Khanmigo capabilities can help teachers shave as much as five hours from their weekly workload, potentially helping avoid burnout.

[Read more](#)

Honda Has Started Building America's First Plug-in Hydrogen Fuel Cell Vehicle

[Quartz](#)

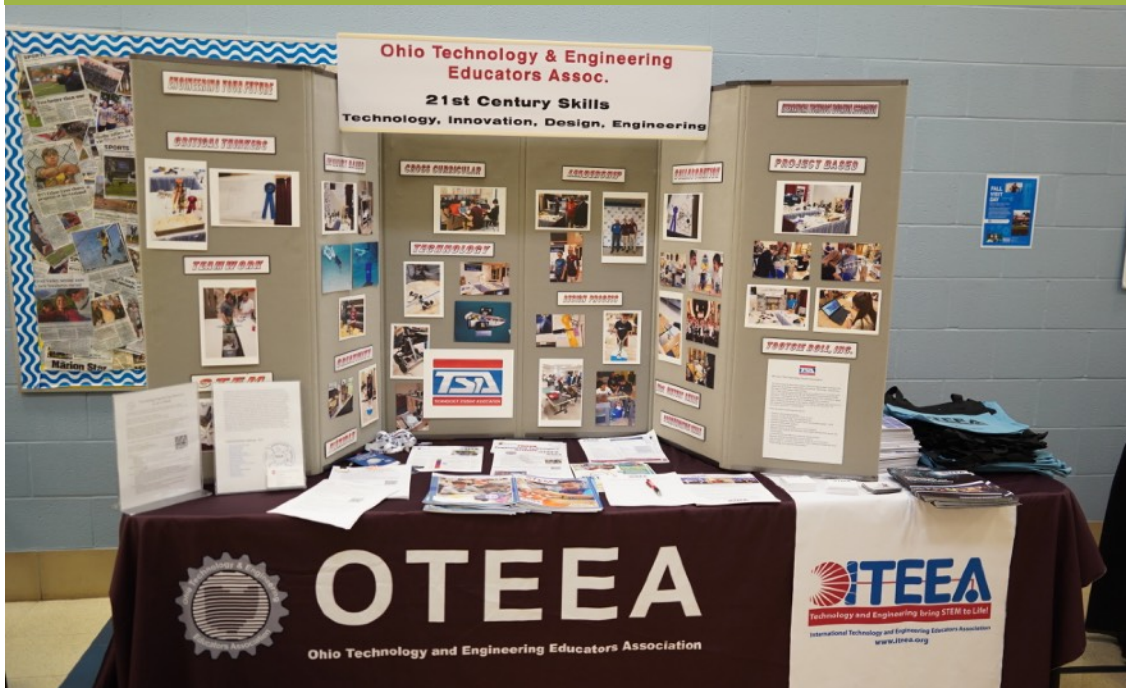
Honda Motor on Wednesday began assembling the first fuel cell electric vehicle (FCEV) built in the United States — the [CR-V e:FCEV](#).



The 2025 Honda CR-V eFCEV is the first U.S.-made fuel cell electric vehicle. Photo: [American Honda Motor Co.](#)

The fuel cell version of Honda's CR-V crossover is the first plug-in hybrid fuel-cell vehicle that will be sold — and built — in the U.S., according to the company. That means it can be plugged into charging ports and run off electricity, as well as hydrogen. There are currently 56 fuel cell stations in the United States — all of them in California, according to the [U.S. Department of Energy](#).

[Read more](#)



1. The Outreach group is looking for more members!

2. Working on planning future outreach activities

3. Have a story to tell about your program or students? Let us know!

4. The webinar has been discontinued. Archived webinars

can be [viewed at online](#).

5. What OTEEA programming would you like to see?

Contact [Paul Post](#)

Sometimes, the fastest way to get to the end is to throw everything out and start over.

[Akin's Laws of Spacecraft Design](#)

This Week's Technology Tip

How to Properly Sharpen Lawn Mower Blades

[Family Handyman](#)

Sharpening a lawnmower blades sounds like a tougher job than it is. In most cases, you can do it in less than 20 minutes with simple hand tools.

But mowing lawns professionally prompted me to develop the maintenance and blade sharpening skills I didn't have when I was younger. Dull

blades tear grass rather than cut it cleanly, and an uneven lawn full of shredded grass can become moldy or scorched by the sun.

[Read more](#)

