Technology & Engineering Learning Community
April 2024 eBlast

TECHNOLOGY & ENGINEERING STANDARDS AND IMPLEMENTATION SUPPORTS

- STEELS Hub - One stop shop for resources to support the implementation of the Science, Technology & Engineering, and Environmental Literacy & Sustainability standards.

STEELS Hub
Science, Technology & Engineering, and Environmental Literacy & Sustainability

- ****NEW**-** PDE is providing (2) exciting opportunities to support the implementation of the new STEELS Technology & Engineering Pennsylvania Standards. Please share!
  - o 2024 Supporting Technology & Engineering in Pennsylvania with Engineering byDesign (STEP w/EbD) Summer Workshops**.** Fully funded, 4-day in-person training (elementary, middle, and high school specific EbD courses) for 25 educators per level in the summer of 2024. Participants will receive an$816/person stipend to cover transportation, lodging, and meals. (32) Act 48 hours will be available as well as (3) graduate credits through St. Cloud State University. Register NOW!! *Seats are filling up fast!!*
  - o Access Free K-12 Engineering byDesign EbD curriculum which includes a learning management system, real-time online access to all course updates, additional interactive media, and online pre and post-assessments. EbD is aligned to the ITEEA Standards for Technological and Engineering Literacy (STEL). The K-12 PA Technology & Engineering Standards are nearly identical to the STEL (Click here to request access to EbD courses).

PROFESSIONAL DEVELOPMENT OPPORTUNITIES

Educator Application: PSSA & Keystone Exams Assessment Committee Reviews. The Pennsylvania Department of Education (PDE) conducts various meetings in support of the Pennsylvania System of School Assessment (PSSA), the Keystone Exams, and the Classroom Diagnostic Tool (CDT). The attendees for these meetings are Pennsylvania educators. Pennsylvania educators have been involved in the development of the PSSAs, Keystone Exams and CDT since their inception. PDE relies on educators to review items for alignment with the assessment anchor content standards, level of difficulty, bias, clarity, grade appropriateness, and a host of other indicators. If you are interested in serving on a review committee you must submit an application. Please note applicants must have a minimum of 5 years of teaching experience. Assessment Committee Review Application

Upcoming ITEEA *STEM*inar Series (Free for ITEEA Members, $15 for Non-Members)

- Developing an Open-Sourced CAD-Based System and Curriculum for Teachers - The recent widespread access to makerspaces has led to a renaissance in the development of physical instructional materials, such as mathematics manipulatives, science kits, and engineering projects. Learn more about how ITEEA is collaborating with the Make to Learn Laboratory at the University of Virginia to develop instructional units as part of the Engineering byDesign curriculum based on CAD models in an open-source repository. This project provides students with authentic manufacturing experiences and has led to increased student engagement and interest in STEM careers, potentially increasing the gender diversity of students entering manufacturing and STEM fields. Presented by: Ryan Novitski
  Tuesday, May 14, 2024 @ 7:00PM ET
- Easy Printing Options Using Canva - Canva is an easy website and app to allows students to create graphic images that can be laser engraved, printed, or applied to a t-shirt. Come learn how to use the basics of Canva and how to have your students at any grade level be able to easily make their own graphics project. Presented by: Caitlin Bowen
  Monday, June 10, 2024 @ 5:00PM ET

Submit a Manuscript to ITEEA's Restructured Flagship Journal. ITEEA's rebranded and restructured flagship journal is now accepting submissions through its new online manuscript system on Scholastica. TEE seeks practitioner-focused articles that align with the mission of ITEEA with clear applications for teachers, principals, informal educators, preservice teachers, teacher educators, and those working in educational policy.

The [Technology & Engineering Education Association of Pennsylvania (TEEAP)](#) is a professional association of educators whose goal is to improve the quality of instruction in technology and engineering/STEM education throughout the Commonwealth of Pennsylvania. Interested in joining? Please visit the [membership services](#) page.

The [International Technology and Engineering Educators Association (ITEEA)](#) is the professional organization for technology, innovation, design, and engineering educators. Their mission is to promote technological and engineering literacy for all by supporting the teaching of technology and engineering and promoting the professionalism of those engaged in these pursuits. ITEEA strengthens the profession through leadership, professional development, membership services, publications, and classroom activities.

The Pennsylvania Department of Education (PDE) is accepting nominations for the Recognizing Inspiring School Employees (RISE) Award, sponsored by the U.S. Department of Education. This federal award honors a school employee who provides exemplary service to students in pre-kindergarten through high school. The RISE Award was created to recognize and promote the commitment and excellence exhibited by classified school employees. To be eligible for the RISE Award, an individual must be a full- or part-time non-teaching school employee, including paraprofessionals, clerical and administrative services, transportation services, food and nutrition services, custodial and maintenance services, security services, health and student services, technical services, and skilled trades. Nominations may be submitted by local education agencies, school administrators, professional associations, labor organizations, educational service agencies, nonprofit entities, or parents and students. To nominate someone for the RISE Award, complete the [online nomination form](#) by **August 30, 2024.** More information on the RISE Award can be found on PDE's website.

RESOURCES

Pennsylvania has the distinct privilege of once again being in the direct line of a total solar eclipse on April 8, 2024. The last time Pennsylvania was in direct line with a total eclipse was 1806. While the path is somewhat westwardly oriented in comparison to the last total eclipse, much of Pennsylvania will lie within the paths of totality or partial totality. Check out [PDE 2024 Solar Eclipse resources](#).

The [LightSound](#) device was designed and developed in 2017 as a tool for the Blind and Low Vision (BLV) community to experience a solar eclipse with sound. The device uses a technique called sonification which is the process of converting data (or light intensity in this case) to sound. As the Moon eclipses the Sun during a Solar Eclipse the sunlight begins to dim and the LightSound device will output a change in musical tone. The device can be attached to headphones or to a speaker to project the sound for a group. LightSound is powered by either a 9V battery, rechargeable Li-ion battery, or by connecting it to a laptop via USB. Data can be collected and saved for later analysis or sonification when the device is connected to a computer. The LightSound Project is completely open source and everything you need to build your own device can be found here: [LightSound Assembly Instructions](#). [Wiring Diagram 3D Case Design](#).

[ChangED Magazine](#) supports educators across for the instructional practice changes that accompany the new STEELS standards. Please check out current and achieved issues.

[On-Demand Learning Library!](#) ITEEA users now have free access to ITEEA's On-Demand Learning Library, hosted on Vimeo, with over 100 hours of high-quality professional learning on a wide range of technology and engineering education topics that can be viewed anytime, at your convenience. The updated resource is easy to access and navigate, completely searchable, and free! Further, users can add comments to videos to share your thoughts, takeaways, and engage with other educators.

[Hour of Engineering](#) is a free platform designed to engage and educate students about the role and fundamentals of engineering before they begin high school.

TeachEngineering. Free K-12 standards-aligned, hands-on lesson, activities, maker challenges and more for teaching science, engineering, and math.

PBLWorks supports educators with a variety of Project Based Learning workshops, courses, and services.

K-12 NASA STEM Engagement. Students and educators are heading back to school and NASA STEM is here to help bring the science of the agency's missions and the spirit of exploration into classrooms and homes. NASA offers several resources for educators and students and has new opportunities to join in this 2023-2024 school year.

Learn about PBS Learning Media Engineering & Technology resources and projects that connect students to engineering design practices and future careers.

TECHNOLOGY & ENGINEERING EDUCATION/STEM SPOTLIGHT
At the 2024 Annual Conference held March 6-9, 2024, in Memphis, Tennessee, ITEEA presented multiple awards to teachers and programs exemplifying excellence in the field of technology and engineering education. Below is a list of award recipients from Pennsylvania.
- **PROGRAM EXCELLENCE AWARDS -** Bloomsburg Area High School
- **TEACHER EXCELLENCE AWARDS –** Todd Brown (Solanco High School) and Steph Staub (Seventh Street Elementary - Oil City Area School District)
- **MALEY OUTSTANDING GRADUATE STUDENT AWARD -** Jeff Oberholtzer (Millersville University)

STUDENT CHALLENGES
The Technology Student Association (TSA) provides student members the opportunity to explore a wide variety of STEM (Science, Technology, Engineering, and Math) education and career-interest areas. All TSA middle school competitions and high school competitions are correlated with national STEL standards, directly aligned to the Pennsylvania Standards for Technology & Engineering, and can be integrated into and enhance STEM curriculum. Participation in TSA competitions allows TSA members to apply technology and engineering skills in challenging and innovative ways. Working individually or as a team, TSA members are motivated by the inspiration and enthusiasm gained from being recognized for the successful application of those skills. If you are in starting a PA-TSA chapter, please contact the Pennsylvania State TSA Advisor, Brandt Hutzel – brhutzel@pa.gov.

ARTICLES and PODCASTS
- Studies Indicate Safety Must Be a Greater Priority in STEM and CTE Instructional Spaces. Pertinent Health and Safety Issues from Recent Studies.
- ChangED Podcast is for educators by educators focused on embracing instructional practices that lead to student engagement and learning.
- 3 Steps for Creating Video Projects with Elementary Students. A straightforward plan for facilitating multimedia projects helps ensure collaborative learning and a fun classroom experience.
- How Robotics Can Help Students in Special Education Learn Social Skills. Combining robotics instruction with social stories can help students figure out how to navigate friendship.
- Exploring the Engineering Design Process for Kids. Let's dive into what the Engineering Design Process looks like and how you can adapt it to your classroom as another way to engage students.
- Getting Students to Read Digital Texts More Deeply. Since so much of what students read is presented onscreen, it's important to ensure that they slow down and really engage with the content.
- The Importance of Teaching Engineering in Elementary Schools. Introducing young learners to engineering concepts boosts their excitement in STEM and builds their problem-solving skills, which is key for future innovators.

CONFERENCES/COMPETITIONS

2024 Pennsylvania Technology Student Association State Leadership Conference – April 17-20, 2024, Seven Springs Resort, PA

The Pennsylvania Department of Agriculture will once again be hosting Farm City Day Central PA. The event will be returning to the Farm Show Complex May 8-9, 2024. Please register your school today!

2024 National TSA Conference - June 28 - July 2, 2024, Orlando, FL

2024 TEEAP Conference – October 24-25, 2024, Millersville University

2025 PETE&C Conference – February 9-12, 2025, Hershey Lodge & Convention Center