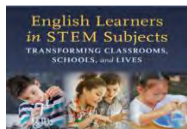


VISIT THE DUPAGE ROE STEM WEBSITE AT <http://stemdupage.com/>



English Learners in STEM Subjects; Transforming Classrooms, Schools and Lives

A [new report](#) from The National Academies of Sciences, Engineering, and Medicine examines the research on English Learners' learning, teaching, and assessment in STEM subjects and provides guidance on how to improve learning outcomes in STEM for these students.



Transforming Science Assessment: Systems for Innovation

Achieve recently released [resources](#) for state education leaders that also will be useful to other science leaders. The series provides information about how states pursue statewide assessments and analyze the features that influence various approaches.



STEM Worker Shortage

A Missouri-based technology and engineering company survey indicates about 40% of American believe the STEM worker shortage is at a crisis level. The survey results also report that current students are more likely to pursue a STEM field than their parents. [Read more.](#)

Upcoming Events and Opportunities

Assessment and the NGSS: How to Assess Three-dimensional Learning - January 29, 2019

Science will soon be considered as one of the school scoring factors for the state report card. Don't delay obtaining insights as to what you can do to support your students in the application of three-dimensional, NGSS-aligned assessment principles. [Register here.](#)

Upcoming Math Focused Workshops - February 19, 2019

The ROE is hosting two half-day workshops designed for math educators and evaluators. Enroll in one or both! Presenters from the National Council of Supervisors of Mathematics will facilitate the sessions.

1. **Equity and Social Justice in the Mathematics Classroom (8:00 - 11:00 am).** Participants will learn strategies that will ensure high expectations and meaningful learning for all students. Click [here.](#)
2. **Observation and Evaluation in the Mathematics Classroom (12:00 - 3:00 pm).** Math educators and evaluators of math educators will explore and better define what meaningful instruction looks and feels like in the math classroom. Click [here.](#)

Model Water Tower Competition - February 23 - Westmont Junior High

Enter your team! Interested schools [register](#) for the competition and provide your students with a great experience. Check the [website](#) for details and news about the State Competition to be held in April 2019.

The 2019 EngineerGirl Writing Contest Is Open!

This year's topic is "Stories Engineered to Inspire." Students may submit works of creative fiction that celebrate engineering design and problem solving. [Detailed instructions now available.](#) Submissions due February 1, 2019.

Resources

Hour of Code - Continued. . .

The official "hour of code" has passed but don't miss the opportunity to explore and improve coding work with your students. Check out these resources: <https://hourofcode.com/us/learn>; <https://code.org/>; <https://csedweek.org/educate/hoc>; <https://www.khanacademy.org/hourofcode>; <https://www.eschoolnews.com/2017/12/04/hour-code-activities-love/> (scroll down the page)

Design Squad Global - Going Green

Get students thinking about engineering and environmental sustainability and solve environmental problems with engineering. Design Squad has club guidelines. [Six-week](#) and [twelve-week](#) program guides, along with club leader [training videos.](#)

Try Engineering Together

Explore this [safe, innovative way](#) to provide life-changing experiences to direct students toward a STEM path.

VISIT THE DUPAGE ROE STEM WEBSITE AT <http://stemdupage.com/>



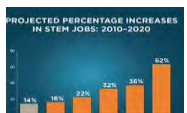
Survey of Top Edtech Priorities

More than 90% of school district leaders across the country say their top priority for education technology is to personalize learning for students, according to a [survey](#) from the Center for Digital Education. The survey also reveals that about 75% of districts offer blended-learning options and more educators are expressing concern about student data and privacy issues.



There's More to Math than Drills

Drilling is one small part of a broader learning approach. Students also need to experiment, explore, collaborate, theorize, and reflect. [Continue the conversation](#) with colleagues.



STEM Worker Shortage at a Crisis Level?

A Missouri-based technology and engineering company survey indicates about 40% of American believe the STEM worker shortage is at a crisis level. The survey results also report that current students are more likely to pursue a STEM field than their parents. [Read more.](#)

Upcoming Events and Opportunities

Illinois Science Teacher Association and Illinois Council of Teachers of Mathematics Conference - October 19-20

Two state organizations have come together to provide an exceptional conference for science, math and STEM educators. Registration includes meals, raffles, a reception on Friday and more. [Register here.](#)

Pumpkin Race Competition – October 27

Enjoy the fun with decorating, costumes, and races. Proceeds benefit the Turning Pointe Autism Foundation. Get more information [here.](#)

NGSS Science and Engineering Practices Workshops – November 5 and 19 – Hinsdale South High School

These workshops are geared toward teachers of grade levels 6-12. Each one will focus on two different science and engineering practices. [November 5 targets SEP's 2 and 3](#) and [November 19 targets SEP's 6 and 7.](#)

Growing STEM: Creating and Nurturing STEM Learners – November 14 – Glenbard East High School

Everyone with a STEM interest is invited to hear Dr. Jay Thomas, who will discuss his research on creativity and motivation and the connection with STEM learning and practice. And, Leslie Kressin will share her experiences as a STEM student and professional. Register by using this email address: mbiniewicz@dupageroe.org.

SMART Competition

Engage your high school students in creating their sustainable energy solution using professionally available software and access to international experts as mentors and sponsors. [Registration](#) runs October through February.

NISE Conference - November 12

Northern Illinois Science Educators will host its fifth annual conference, *SEP by SEP*. Registration is \$165 for the full day. Attendees may earn up to 5 PDH's. Updates on the program are ongoing. [Learn more.](#)

Resources

Techshopz in a Box

Check out these open source workshop plans, documents, and procedures designed to change the way middle school girls think about technology. <https://www.techgirlz.org/techshopz-in-a-box/>

NEA Foundation Grants

Grants to improve student achievement in U.S. public schools and public higher education institutions, with preference is given to science, technology, engineering and mathematics (STEM) or global learning projects. [Applications](#) are due Feb. 1, June 1, and Oct. 15.

IDNR Grants

The Illinois Biodiversity Field Trip Grant (applications due January 31, 2019) and the Illinois Schoolyard Habitat Action Grant (applications due November 30, 2018) offer grants to help you bring learning to life by supporting field trips and the development of wildlife habitat. For details and application forms, [click here.](#)

VISIT THE DUPAGE ROE STEM WEBSITE AT <http://stemdupage.com/>



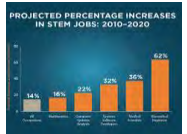
Resource Recommends Screen Time Limits for Parents

Parents should reconsider their relationship with their phones; save the most stressful aspects of smartphone use for when other family members aren't present; and focus on mealtimes, bedtimes and other downtime by unplugging with the family, according to a [one-page resource](#) in JAMA Pediatrics.



New Comparative Website for Prospective Illinois College Students

Illinois is rolling out a new [centralized data portal](#) that compiles information on graduation rates, costs, student debt and potential career earnings of graduates of Illinois two- and four-year institutions.



STEM Worker Shortage at a Crisis Level?

A Missouri-based technology and engineering company survey indicates about 40% of American believe the STEM worker shortage is at a crisis level. The survey results also report that current students are more likely to pursue a STEM field than their parents. [Read more.](#)

Upcoming Events and Opportunities

Grade K-6 Make and Take Guided Math Workshop - September 27

Learn about specific math center examples and develop your ideas into a plan for your classroom. A variety of Guided Math formats and options will be shared! For more information and to register, [click here](#).

Back to School STEM Fair - October 6 - Joliet Junior College/U Building

Congressman Foster invites you to spend the day with STEM organizations dedicated to empowering and inspiring careers in science, technology, engineering, and mathematics. Click [here](#) for more information and to register.

Empowering Women to Reach Their Earning Potential - October 3 - Lake Park HS (West Campus)

A Breaking Boundaries event that you don't want to miss. This career exploration program for women is designed to spark interest in traditionally male career paths, featuring Kayleen McCabe of the DIY Network show, Rescue Renovation. [Register here.](#)

Illinois Science Teacher Association and Illinois Council of Teachers of Mathematics Conference - October 19-20

Join science, math and STEM educators from throughout Illinois as they build their individual and collective knowledge and skill. Group discounts available. [Register here.](#)

Apply to Be a PolarTREC Teacher

[PolarTREC](#) (Teachers and Researchers Exploring and Collaborating) is accepting applications from formal (grades 6–12) and informal educators for teacher field research experiences during the 2019 (usually Arctic) or 2019–2020 (usually Antarctic) field seasons. The deadline to apply is September 24.

Resources

Open Source Instructional Materials Coming Soon

OpenSciEd is creating a set of open source K-12 science instructional materials designed for the NGSS. The group is seeking teams to complete the middle school curricula. [Learn more.](#)

Smithsonian Science How Webcast – September 27, 2018

Bring scientists into your classroom with a [free 30 minute live webcast](#) on bone fossilization from the Smithsonian's National Museum of Natural History. This and other programs provide grade 6-8 students with positive STEM role models, career information, and cutting-edge research.

Looking for STEM Engineering Materials, Science or Math Curriculum?

[Teacher Resource Center](#) has a growing collection for all grade levels. Schedule time to examine materials or discuss free NGSS or targeted professional development for your school or district.

VISIT THE DUPAGE ROE STEM WEBSITE AT <http://stemdupage.com/>



(TCD website)

Technology Center of DuPage Students Excel at State Competition; Two Go to Nationals!

Twenty-four TCD students competed in the [53rd Annual SkillsUSA Illinois State Leadership and Skills Conference](#). Eight placed first, second, or third in their respective contest divisions, and six placed in the top ten.

Preventing Burnout

Learn about some of the adjustments that can pay off big time in helping you to [prevent overload](#).



Girl Subject? No Such Thing

When adults say that a female student or child isn't "good at" science or math, they likely meant to be helpful and to encourage the student to pursue other areas of interest. That is usually not the message received. [Read more](#).

Five Easy, Low-cost Ways to Do AR & VR in Your Classroom

[Classroom integration](#) of augmented and virtual reality does not have to break the bank.



(LinkedIn)

Data-Driven Instruction: Top Trend in K-12 Use of Ed-Tech

Educators' [use of data](#) to make decisions about instruction and intervention rises dramatically in U.S. schools.

Skills Deficit Predicted to Imperil U.S. Economy by 2030

A shortage of skilled workers in multiple industries is expected to result in a loss of revenue for the US economy, according to [a report](#) from Korn Ferry.



(Pixabay)

Why We Need More Students of Color in Math Enrichment Programs

The good news - the number of American teens who excel in math is increasing. The bad news - the growing ecosystem of high school math lacks students of color. [Read more](#).

Upcoming Events and Opportunities

Summer Fun Begins with STEM at Fermilab - June 11, 2018

Take advantage of this unique opportunity. Participants will learn and apply the connections between STEM, NGSS, and real-world scientific investigations at Fermilab. Hear from Fermilab scientists, engineers, and technicians regarding how the scientific process progresses from asking questions, to building and running experiments, to analyzing data. [Read more](#) and [register here](#).

Chicago Botanic Garden Professional Development Offerings

Features best practices in STEM education (Science, Technology, Engineering, and Math) and supports Next Generation Science Standards (NGSS) for grades preK–12. Many courses incorporate reading, math, art, social studies, and engineering into the science lessons. PD hours and graduate credits are available for most [workshops](#).

DuPage Children's Museum Expo - August 29, 2018

This is a free event to network and discover programs, resources and products to enhance your work with students. [Click here](#) to learn more and register.

MCMI Summer 2018 Math Institute - July 31 through August 2, 2018

The [institute](#) includes daily featured speakers, core sessions focused on themes presented by the featured speakers, and choice sessions to accommodate the needs of a broad audience of learners.

Illinois Department of Natural Resources Workshops

[Register](#) for ENTICE (Environment and Nature Training Institute for Conservation Education) educator workshops, which provide background information, networking opportunities, hands-on lessons, supplemental resources, and correlations to Next Generation Science Standards and/or Illinois Early Learning and Development Standards.

Collaboration and Creating an NGSS Storyline – June 18-21, 2018

Participants will focus on NGSS implementation through the creation of an NGSS storyline unit based on phenomenon-driven investigation using the three dimensions as prescribed by the NGSS. [Learn more](#).

Enhance Your Knowledge of the Next Generation Science Standards

Enroll in the NSTA [Shifting to the NGSS: Professional Book Study](#) in October 2018!

Resources

ETA/Hand2mind Offers STEM Grants

Support excellent teachers who would like to integrate more STEM in their classes but may be lacking funds. In partnership with ISTA and ICTM, ETA/hand2mind is offering **three (3) \$1500 awards**. [Applications](#) accepted through 9/7/18.

ACS Chemistry Teacher Award

The Chicago Section of the American Chemical Society seeks nominations for a high school chemistry teacher in the Chicagoland area to receive a \$1000 award to recognize and encourage excellence in teaching. [Nominations](#) are due July 1. [Read more](#).

Amazon Future Engineers Pathways Program

This program will provide Amazon sponsorship for eligible schools to help implement AP Computer Science in the upcoming school year. All schools, including Title 1 schools and/or those schools and districts with financial barriers, are strongly encouraged to apply. To get started, please complete the [application](#) as soon as possible.

VISIT THE DUPAGE ROE STEM WEBSITE AT <http://stemdupage.com/>



STEM Education Stamp Released

The United States Postal Service recently released a set of stamps to commemorate the role of STEM education in keeping our nation a global leader in innovation. [Read more.](#)



(Pixabay)

Report: Best Practices for Blended Learning

A [report](#) from Future Ready Schools offers examples of blended learning in practice, including a framework for school districts that want to adopt a blending-learning approach.

How IT, Curriculum, Facilities Can Collaborate

Preparing students for STEM careers will require K-12 IT, curriculum and facilities departments to work together. [Read this commentary](#) to learn how a Florida school district accomplished this.



Steps for developing a 21st-century library

This Illinois school library features robotics, flexible furniture, technology devices and engineering tools in its IDEA Lab. Read more about creating a [21st-century library](#).

Upcoming Events and Opportunities

STEM-CON - April 28, 2018 - College of DuPage

This free, family-friendly event encourages scientific discovery through hands-on activities and demonstrations while providing the opportunity to learn about STEM careers from researchers, industry representatives, and educators. [Learn more.](#)

EngineerGirl Ambassadors Program

High school girls with an interest in using their creativity and skills in engineering design to inspire younger students are encouraged to apply to become EngineerGirl Ambassadors. Apply by May 31, 2018 at the [EngineerGirl website](#).

Teachers Teaching with Technology (T³) Workshops

Turn your summer into a season for learning at one of these hands-on [professional development workshops](#) for educators in Illinois.

Upcoming Fermilab Events

The [STEM High School Career Expo](#) will be held Fermilab (Wilson Hall) on April 18, 2018, 5:30 to 8:30 p.m. For children ages 7-12, consider the [Wonders of Science](#) program on April 29, 2018, 1:00 to 2:00 p.m. at Fermilab. Tickets: \$4.50/person (nonrefundable). Online registration and payment available. Questions can be directed to edreg@fnal.gov.

Illinois Science Assessment Scoring and Item Development Projects

Opportunities are available for individuals with a 4-year degree in science or education with science teaching experience/endorsement. Complete the [interest form](#) and you will be contacted.

Resources

STEM Learning Through Citizen Science Experiences

Read about [citizen science work](#) that brings together students, teachers, and scientists to provide unique learning experiences for students.

Earth Day Resources

Earth day is April 22, 2018. Use these resources as a starting point.

Earth Day Tips - <https://www.earthday.org/earth-day-tips/>.

Promote awareness with these [ideas, plans, and activities](#).

Celebrate Earth Day with one or more of [these activities](#).

[Resources](#) gathered by Edutopia to honor Earth Day.

VISIT THE DUPAGE ROE STEM WEBSITE AT <http://stemdupage.com/>



African American History Month

Honor, celebrate, and promote STEM during African American History month with these links as starting points.

- [Black Girls Code](#)
- The Black Inventor Online Museum ([section dedicated to female inventors](#))
- [Science NetLinks](#)
- [Engineering – Go for It](#)



Flu Season Science

Flu season data provide a great opportunity to work with students on [statistics, data, and tracking of the flu virus](#) and use this NGSS-aligned [lesson plan](#) for a great classroom exploration of the immune system.



(Pixabay)

How One School Teaches Digital Citizenship

A technology-integration specialist at a Texas school explains why she recast [digital citizenship](#) lessons as citizenship lessons.



Can Text Messages Keep STEM Students on Track?

College students majoring in STEM fields who received [encouraging text messages](#) were 10 percentage points more likely to stay in school than those not receiving messages. Students said they felt more connected to the school and they improved their time-management skills. Could this work with other grade levels?

Upcoming Events and Opportunities

Understanding Inquiry Within the Context of the NGSS: Argumentation and Explanation – March 2, 2018

This workshop is designed for classroom teachers responsible for teaching science in grades K-12. Click [here](#) for more information. Registration fee includes lunch, materials, and other cool give aways.

Fluor Engineering Challenge – Starts February 18, 2018

Are your students already brainstorming solutions for this year's [Ball Launcher](#) challenge? The Fluor Challenge is a great way to get students excited about engineering and is a perfect activity to do as part of Engineers Week, February 18-24, 2018.

STEM Expo – February 24, 2018 – IIT, Rice Campus in Wheaton

Visit the [DuPage Area STEM Expo](#) for an interactive STEM exploration. Over 50 displays, presentations, projects to take home, and activities for school age children, grades K – 12.

TechSavvy – March 24, 2018

[Learn more](#) about this daylong event supporting girls in grades 6-12 who are interested in STEM careers and studies.

Education Programs at the National Laboratories

DuPage County is fortunate to have two national labs within proximity and even luckier that both provide some amazing professional learning and family-oriented opportunities. Find out more about [Fermilab](#) and [Argonne](#) programs.

Resources

How Computers Work

Bill Gates kicks off an introduction to the [six-video series](#) about computers and how they work.

STEM Road Map Curriculum Series

Map a journey that will steer students toward authentic problem solving as you ground them in integrated STEM disciplines. This [new series](#) was developed to meet the growing need to infuse real world learning into classrooms.

Summer STEM Camps

It is never too early to plan for the summer. Check out [this list](#) for starters. Please note that the ROE does not specifically endorse any of those listed. The list is simply provided as a resource. Don't forget to also inquire at area schools, park districts, and libraries.