

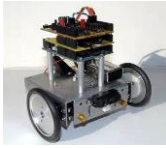
Announcing the ROE STEM website!
<http://www.stemdupage.com/>

News You Can Use...

STEM: Purposeful Change in Teaching and Learning

STEM is more than the four separate subjects the acronym represents. It holds the potential for purposeful change in the structure of schools and the teaching and learning within them. When stepping out of the subject silos, creating learning environments that provide purposeful integration of subjects taught in service to other students at all performance levels.

http://blogs.edweek.org/edweek/leadership_360/2014/10/problem_solving_before_stem_tbt.html?cmp=ENL-EU-NEWS3



Districts Transform STEM Lessons with Robotics

More school districts are integrating robotics into their K-12 STEM curricula and promoting robotics through after-school clubs and activities, according to this article. Educators involved in this trend say robotics can help students master technology, increase engagement and teach collaboration. <http://www.districtadministration.com/article/robots-move-clubs-classrooms>



How Inequity in STEM education Fuels Workforce Gaps

Data reveal access gaps to science, technology, engineering and math education among certain student populations, including minority and low-income students, teacher trainer and former scientist Anne Jolly writes in this blog post. She suggests that such STEM education inequities can result in workforce gaps. <http://www.middleweb.com/18467/stem-disadvantaged-minority-students/>



Antares Rocket Carried Middle School Science Experiments

You have likely heard that an unmanned rocket headed to the International Space Station exploded just seconds after takeoff Tuesday from Wallops Island, Va. What you might not have known is that the Antares rocket was carrying, among other things, a "multitude" of middle school science experiments. The students' experiments were selected from nearly 1,500 proposals. <http://mashable.com/2014/10/28/science-on-antares-rocket-explosion/>



by illustration

Ways to Teach Math Besides 'Drill the Skill'

Educators and experts share their thoughts and suggestions about teaching math.

http://blogs.edweek.org/teachers/classroom_ga_with_larry_ferlazzo/2014/10/response_ways_to_teach_math_besides_drill_the_skill.html?cmp=ENL-EU-NEWS2



25-plus Job Titles That Fall Under STEM

Seventy-four percent of individuals with science, technology, engineering and math degrees do not hold jobs in STEM fields, according to U.S. Census Bureau data. This blog post shines a light on more than 25 job titles, from actuaries to natural sciences managers, which the Bureau includes under its STEM occupations' umbrella.

<http://www.washingtonpost.com/blogs/answer-sheet/wp/2014/09/30/what-is-a-stem-occupation/>

Educators: How to Craft Common Core Math Questions

Educators at a mathematics teachers' conference in New Jersey shared tips for teaching Common Core State Standards in math. Some speakers said questions should include ambiguity that sparks creative problem-solving. "You have to choose the right level of ambiguity, enough language so that students know what to do without making it obvious what they need to do," test-question designer David Wees said. http://hechingerreport.org/content/makes-good-common-core-math-question_17841/

Upcoming Events

NGSS: Shifts in Assessment Practices, January 27, 2015. The DuPage Regional Office of Education will host a workshop for middle school educators and administrators. Stay tuned for details.

County Institute Day, February 27, 2015. The ROE STEM Team, in cooperation with several members of the STEM Community Advisory Team, is planning to host a number of STEM related workshops, with a focus on middle school. Information will be published as part of general Institute Day Program available in several weeks. Watch for future announcements.

Applications Available for Annual TECH 2015 Student Showcase. Applications are now being accepted for the annual TECH 2015 student showcase on May 7, 2015, at the Illinois State Capitol building. TECH 2015 is a not-for-profit initiative supported by a broad range of education and business organizations. Its purpose is twofold, to raise awareness of the critical role technology plays in preparing students to succeed in today's world and to show the need for increased funding for classroom technology. All state schools are invited to apply. Selected schools will send a team of two or three students to Springfield, accompanied by one teacher or administrator. Each team will share a classroom project with state legislators from approximately 12:30 to 3 p.m. at the Capitol. For more information about TECH 2015 and to apply, visit the TECH 2015 website at www.iceberg.org/tech_2015. Applications will be accepted through Feb. 3, 2015.

Schedule an Hour of Code, December 8-14

Join the largest learning event in history, December 8-14. The Hour of Code is a global movement reaching tens of millions of students in 170+ countries. Anyone, anywhere can organize an Hour of Code event. One-hour tutorials are available in more than 30 languages. No experience needed. Ages 4 to 104. <http://hourofcode.com/us>

Resources

STEMscopes: Tool to assist with shifts required by the NGSS

Teachers need to be prepared for the shifts and challenges that will accompany the NGSS. Accelerate Learning™, creators of the first, built-from-the-ground-up K-12 NGSS curriculum, has your solution: STEMscopes™. Combining powerful hands-on investigations, engineering and design challenges, and claim-evidence-reasoning assessments. Learn more and download our NGSS Flow Map at:

<http://info.acceleratelearning.com/illinois-ngss-flowmap-download>

Sport Science Blogs

Schottenbauer Publishing has a series of sport science blogs with free graphs and discussion questions. These resources may be of interest to physics, physical science, and math teachers of grades 7-12, plus some college and university classes. A range of sports are covered.

<http://sportscienceeducation.blogspot.com/>

DOE TED-Ed Video, Lesson on Energy

Learn about and apply a multidisciplinary approach to energy education, from the natural sciences to economics and other social sciences, using a TED-Ed video and lesson. Energy is neither created nor destroyed, yet the global demand for it continues to increase. But where does energy come from, and where does it go? The animated #energy 101 video and lesson plan explain how energy flows through Earth's system. <http://ed.ted.com/lessons/a-guide-to-the-energy-of-the-earth-joshua-m-sneideman#watch>

Teacher Scholarship to Raft the Grand Canyon with NCSE

Apply for an all-expenses-paid eight-day raft trip down the Grand Canyon with the National Center for Science Education (NCSE). Winners will receive free airfare, lodging before and after the trip, and the trip of a lifetime, exploring the wonders of Grand Canyon with a team of scientists, educators, and science fans. The deadline for applications is January 5, 2015. For more information:

<http://ncse.com/about/excursions/teacher-scholarship>

The Sow It Forward Garden Grants Program

This grant is for nonprofit causes or organizations (schools, colleges, community gardens, etc.) interested in starting or expanding food garden projects that are of general benefit to their community. For the 2014 round of giving, Sow it Forward has offered 100 full grants and roughly 50 partial grants. The full grant has a worth of \$500 and the partial a worth of \$325. There are no geographic limitations on what types of food garden projects will be considered, but all grantees must be based in the United States. <http://kqi.org/grants>

Groovy Lab in a Box

As science educators who have both worked in private industry, we wanted to create something that inspired critical thinking and a genuine love of learning. We believed more "doing" and "experiencing" of actual science practices is essential to science education. Groovy Lab in a Box has many facets to its design and can be utilized by schools, after school programs, homeschoolers, and parents of natural born STEMists. <http://www.groovylabinabox.com/>