



Newsletter

Special Interest Articles

- **Siemens Summer of Learning**
- **Connecting with PRISM**

Individual Highlights

- **Science Experiments / Science Fair Resources**
- **Science Buddies**
- **Next Generation Science Standards Web Seminars**
- **Cell Image Library**
- **Mathalicious**
- **Homework Hotline - There's an App for that!**
- **Design Squad FIDGiT Factory**
- **DESIGNiT, BUILDiT, FIDGiT**
- **String Thing**
- **PhET Simulations for Elementary School**
- **Study Blue App**
- **Museum Box**
- **Infuse Learning**
- **NEARPOD**
- **Professional Opportunities**

Siemens Summer of Learning

The Siemens Summer of Learning Application is now open! The Siemens STEM Academy offers two one-of-a-kind, all-expenses-paid professional development opportunities that provide unique experiences to middle and high school teachers from across the country looking to bolster STEM learning and gain pragmatic skills that they can translate back into the classroom.

Applications due February 5, 2013

Apply today for a one-of-a-kind STEM-u-lating summer professional development experience.

stem.discoveryeducation.com/index.cfm?event=showSTEMApplication&landing=1

Connecting with PRISM



Connect with PRISM on Facebook.
www.facebook.com/Rose.PRISM



Connect with PRISM on Twitter
twitter.com/RoseHulmanPRISM

Look for daily posts on Facebook and Twitter highlighting classroom resources!



Making Science Fun!

www.stevespanglerscience.com/experiments/

Science Experiments / Science Fair Resources

Welcome to the ever-growing, ever-changing collection of Steve Spangler's favorite science experiments, recipes and cool science projects. This hands-on science library represents Steve's most requested science experiments from his

weekly television appearances and live presentations throughout the country. Just search for an easy science project idea or browse the entire library of experiments.



www.sciencebuddies.org/

Science Buddies

The award-winning, non-profit Science Buddies empowers K-12 students, parents, and teachers to quickly and easily find free project ideas and help in all areas of science from

physics to food science and music to microbiology. Whether your goal is to find a fun science activity for your kids or win the international science fair, sciencebuddies.org puts

comprehensive, scientist-authored tools, tips, and techniques at your fingertips.

Twitter - @ScienceBuddies



learningcenter.nsta.org/products/web_seminar_archive_sponsor.aspx

Next Generation Science Standards

Web Seminar Archives:

Preparing for NGSS: Engaging in Argument from Evidence
 Preparing for NGSS: Constructing Explanations and Designing Solutions
 Preparing for NGSS: Using Mathematics and Computational Thinking
 Preparing for NGSS: Analyzing and Interpreting Data
 Preparing for NGSS: Planning and Carrying Out Investigations
 Preparing for NGSS: Developing and Using Models
 Preparing for NGSS: Asking Questions and Defining Problems
 How to Lead a Study Group on Next Generation Science Standards (NGSS) First Public Draft
 Introduction to the Next Generation Science Standards (NGSS) First Public Draft
 Making the Transition to Scientific and Engineering Practices: Visiting the Potential of the Next Generation Science Standards
 A Framework for K-12 Science Education

Twitter - @NSTA



www.cellimagelibrary.org/

Cell Image Library

This library is a public and easily accessible resource database of images, videos, and animations of cells, capturing a wide diversity of organisms, cell types, and cellular processes. The purpose of this database is to advance research on cellular activity, with the ultimate goal of improving human health.

This Image Library is a repository for images and movies of cells from a variety of organisms. It demonstrates cellular architecture and functions with high quality images, videos, and animations. This comprehensive and easily accessible Library is designed as a public resource first and foremost for research, and secondarily as a tool for education. The long-term goal is the construction of a library of images that will serve as primary data for research.

Twitter - @CellImageLibrar



www.mathalicious.com/

Mathalicious

Mathalicious lessons teach standards-based math through real-world topics that students care about.

In the United States, 61% of middle school students say they'd rather take out the garbage than do their math homework. If you ask students why they dislike math so much they'll often say, "I don't know what it means or when I'll ever use it." To many, math is just a bunch of random steps to memorize and regurgitate. But math is about more than just numbers and equations. Math is a tool to

explore the world around us, and that's exactly what Mathalicious does. Mathalicious provides teachers with lessons that help them teach math in a way that engages their students—in a way that helps students understand how the world works. Lessons are aligned to Common Core Standards.

See the new sample lessons!

Twitter - @Mathalicious



www.askrose.org

Homework Hotline - There's an App for that!

Stumped by a math problem? Have a science question? Thanks to an innovative Rose-Hulman Institute of Technology student, there's now an iPhone application that gives true meaning to Smartphone technology.

The AskRose app links Indiana middle- and high-school students with free homework math and science assistance, through Rose-Hulman's Homework Hotline, play mathematical games, and use interactive educational resources.

The app is available at the iTunes App Store (<https://itunes.apple.com/us/app/ask-rose/id560503334?mt=8>).

Franklin Totten, a senior computer science and computer engineering student from Hanover, Indiana, started the AskRose app as a class project with classmates, and completed it on his own after consulting with Homework Hotline staff. The app became available to the public earlier this month.

"They (Homework Hotline staff) wanted something useful and fun that people would want to use," says Totten. "This app allows the Homework Hotline to use current technology to reach students needing help."

The Homework Hotline started in 1991 as a toll-free telephone service. Several online features have been added in recent years, and the iPhone app gives students easier access to Rose-Hulman students that are available as hotline tutors from 7 p.m. to 10 p.m. on Sunday through Thursday during the school year.

Totten was the brainchild behind the iPhone app's interactive periodic table. "I thought it would be good if it were interactive," he stated. "A PDF of the periodic table was not good enough and the information would be crunched into a small space. So, I worked on something that would be interactive."

Totten plans further updates to "version one" of the AskRose app throughout this school year. He is spending this winter developing versions of the app for Android-based phones.

Follow Homework Hotline on Twitter - @RHIT_AskRose



pbskids.org/designsquad/games/fidget_factory/

Design Squad FIDGiT Factory

Design Squad's "Fidget Factory" provides a playful introduction to electrical circuits. First, players build their "Fidget Factory" by making a circuit to power a variety of machines that control Fidget character's attributes, such as color, antennae, and accessories. When the orders start rolling

in, the player will have to act fast, getting those Fidgets customized before the battery power runs out. Each level requires the player to add on to their circuit with more machines, more batteries, and then use them to make more Fidgets.

DESIGNiT, BUILDiT, FIDGiT

In this multiplayer game, players employ their problem-solving and engineering skills to save small, cute creatures called Fidgets. They design rooms with various configurations of objects to help get the creatures to safety. Players can also exchange these rooms with friends and

work on them together. FIDGiT's overarching goal is to help kids strengthen and build their engineering design process skills while learning along the way that engineers rarely solve a problem on their first try.

String Thing

This interactive feature lets kids exercise their musical talent while learning about the physics of sound and string instruments. Changing the tension, gauge, and length of each string changes the pitch that it makes. Once all the strings are in place, you can add a beat and play it back!

Use DESIGN SQUAD NATION activities, animations, video profiles, and episodes in classrooms and afterschool programs, in libraries and museums, at events and at home.

PhET Simulations for Elementary School

Build a Fraction

Build fractions from shapes and numbers to earn stars in this fractions game or explore in the Fractions Lab. Challenge yourself on any level you like. Try to collect lots of stars!

Fractions Intro

Explore fractions while you help yourself to $\frac{1}{3}$ of a chocolate cake and wash it down with $\frac{1}{2}$ a glass of orange juice! Create your own fractions using fun interactive objects. Match shapes and numbers to earn stars in the fractions games. Challenge yourself on any level you like. Try to collect lots of stars!

Fraction Matcher

Match shapes and numbers to earn stars in this fractions game. Challenge yourself on any level you like. Try to collect lots of stars!

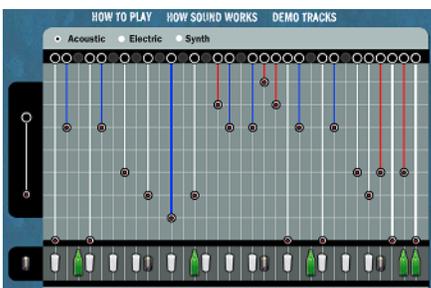
John Travoltage

Make sparks fly with John Travoltage. Wiggle Johnnie's foot and he picks up charges from the carpet. Bring his hand close to the door knob and get rid of the excess charge.

See more on the website!



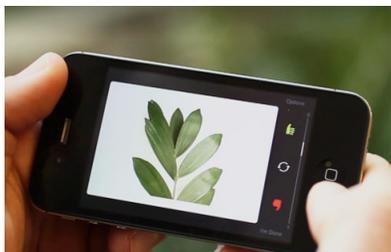
pbskids.org/designsquad/games/fidget/index.html



pbskids.org/designsquad/games/string_thing/index.html



phet.colorado.edu/en/simulations/category/by-level/elementary-school



www.studyblue.com/

Study Blue App

StudyBlue is made for students. It empowers a generation of ambitious digital natives who expect and deserve high quality digital study tools. Nobody forces anybody to use it and nobody tells anybody they can't. StudyBlue helps students learn better. Learn together. And get smarter.

Over two million students from around the world have already chosen to achieve their goals by using StudyBlue.

Engage your students with StudyBlue technology both in and out of the classroom. For free.

Twitter - @studyblue



museumbox.e2bn.org/index.php

Museum Box

If you could put a number of items into a box that described your life, what would you include? What do you think would be included if you were a Victorian Servant or Queen Elizabeth I. If you lived during the English Civil War, what items would you include to make a case

for, or against, the parliamentarians? And what if you were an abolitionist and wanted to show that slavery was wrong and unnecessary, how would you create your evidence.

Museum box provides the tools for you to do just this. It allows you to

build up an argument or description of an event, person or historical period by placing items in a virtual box. You can display anything from a text file to a movie. You can also view the museum boxes submitted by other people and comment on the contents.

Infuse Learning

Join the paradigm shift in pedagogy through the seamless combination of classroom technology and quality teaching. Make informed decisions at the point of instruction with real-time, student feedback.

InfuseLearning provides a simple, powerful platform to streamline the facilitation of learning. Engage every student, on any device.

Connect all students to the conversation of learning through the seamless exchange of ideas. Infuse relevant curriculum and content that inspires the authentic creation of knowledge.

Twitter - @InfuseLearning

NEARPOD

An all-in-one solution for the synchronized use of iPads in the classroom. With Nearpod, instructors launch interactive presentations to engage their students and assess their work with the use of iPads. They can easily create their own Nearpod Presentations (NPPs) with the Cloud-based Content Tool. They can also download and customize NPPs from distinguished educators, publishers, and the Nearpod Team from the Nearpod Store. In the classroom, instructors share content and activities with students and control the activity through their Nearpod app. Students receive curricular content and submit responses on their iPad/iPhone/iPod touch with the Nearpod app.

With the Nearpod Reporting Tool, instructors monitor classroom activity and measure students' results on an individual and aggregate basis with post-session reports. Nearpod can be used for distance learning as well.

Twitter - @nearpod



www.infuselearning.com/



www.nearpod.com/

Professional Opportunities

42nd Annual HASTI Conference

Professional Development for Indiana Science Teachers, "The Joy of Science", February 6-8, 2013, Indiana Convention Center, Indianapolis, Indiana. Registration is open.

hasti.org/HASTIconference.html

eRevolution Evansville

Registration Opens Early Spring 2013, The world is rapidly changing, and our profession is no exception. Our ability to adapt our work to meet the needs of our students has never been more essential. This conference is about enhancing our abilities to make education relevant to students in the digital age through a focus on meaningful learning in media-rich environments. North High School Evansville, July 10 and 11, 2013.

<http://www.evscicats.com/erevolution/>

The Energy Academy at Purdue

To inspire teachers to communicate the importance of this relatively new and highly interdisciplinary area of scholarship in their classrooms, and to inspire students to consider one of the many fields relating to energy sciences and engineering in their educational and career goals. Benefit to participants: • Participants will have the opportunity to learn directly from academics and industry leaders in the energy field. • Students will have the opportunity to experience college life. • Participants will attend academy free of charge, plus teachers will be paid a stipend.

www.purdue.edu/discoverypark/energy/energyacademy/

Soy Biodiesel Chemistry Kit

The kit includes six lesson plans and hands-on experiments along with the necessary equipment for 10 groups of two students to perform each of the kit's hands-on exercises and experiments. Lesson topics include the diesel engine and the development of biodiesel, the physical and chemical properties of soybean oil and esters, thin-layer chromatography, determining biodiesel concentrations in diesel, and more. Indiana teachers can receive their free kit (one per teacher) by completing the online order form at www.indianasoybean.com/chemistrykit or by e-mailing chemistrykit@indianasoybean.com. For out-of-state teachers, the kit can be purchased for \$225 at the website.

What PRISM Can Do For You!

- Easily find the perfect teaching and learning resources from our library of over 4,000.
- Save a list of your favorite resources for quick retrieval.
- Create and share lesson plans that teach your subjects utilizing your favorite resources.
- Develop online classrooms with interactive assignments, lessons, quizzes and more!
- Store your classroom materials online so that they are available to you from any computer.
- Reach your students more effectively by using web media for the digital age.
- Earn PGPs by completing PRISM led online Moodle course – either Beginning Moodle or Intermediate Moodle courses are available to you at no cost several times throughout the year.
- Select from free learning resources that emphasize visualization, rich context, staged-problem solving, and electronically enabled collaboration / communication.
- Augment your own dynamic presence in the classroom with teaching tools that mirror the skills needed for success in higher education and the 21st Century workplace.

*Through our strong support from the **Lilly Endowment** and others, we are constantly growing and improving. Check our site regularly to see what new resources you can use in your classroom.*

www.rose-prism.org



PRISM is a free website that provides collections of online resources for Indiana educators in the fields of science, technology, engineering, and mathematics (STEM). The primary collection of digital teaching materials is indexed according to the Common Core and Indiana State Standards.