prism hosted by ROSE-HULMAN INSTITUTE OF TECHNOLOGY

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Newsletter

Announcing PRISM Summer Courses!

Select Event Registration www.rose-prism.org

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Lesson Plan Module

The PRISM team will be offering a free, four-week distance education course on using the PRISM Lesson Plan Module. This class will be a fast-paced, totally online introduction to the PRISM developed tool.
One section of the class will be offered, meeting once per week for one-hour sessions on four consecutive weeks:

•Wednesdays, 3:00 - 4:00 P.M. (EDT), June 22 - July 13, 2011
OR
•Wednesdays, 3:00 - 4:00 P.M. (EDT), July 20 - August 10, 2011

Two (2) CRU's can be earned for completion of this course (Indiana participants only). You must be a member of PRISM (free) to register for this course.

Basic Moodle for Teachers

The PRISM team will be offering a free, five-week distance education course on using the Moodle Learning Management System. This class will be a fast-paced, totally online introduction for beginners on using Moodle.
One section of the class will be offered, meeting for a weekly two-hour session for five consecutive weeks:

•Tuesdays, 2:30 - 4:30 P.M. (EDT), June 21 - July 19, 2011
OR
•Tuesdays, 2:30 - 4:30 P.M. (EDT), July 26 - August 23, 2011

Five (5) CRU's can be earned for completion of this course (Indiana participants only). You must be a member of PRISM (free) to register for this course.

Intermediate Moodle for Teachers

The PRISM team will be offering a free, five-week distance education course on using the Moodle Learning Management System. This class will be a fast-paced, totally online class intended to develop a stronger understanding of some of the richer features in Moodle.
One section of the class will be offered, each meeting for a weekly two-hour session for five consecutive weeks:

•Thursdays, 2:30 - 4:30 P.M. (EDT), June 23 - July 21, 2011
OR
•Thursdays, 2:30 - 4:30 P.M. (EDT), July 28 - August 25, 2011

Five (5) CRU's can be earned for completion of this course. You must be a member of PRISM (free) to register for this course. Basic Moodle for Teachers course alumni are preferred.

www.exploratorium.edu

Exploratorium Inquiry PD Resources

The Institute for Inquiry (IFI) is a highly sought-after professional development program that addresses the theory and practice of inquiry-based science education. Inquiry is an approach to learning that gives students the opportunity to explore the natural or material world in a way that leads to asking questions, making discoveries, and testing those discoveries in search for new understanding.

IFI workshops and seminars are tailored to a variety of participants: professional developers, administrators, lead teachers, national education reform leaders, out-of-school educators, and the university community. Since its inception in 1995, educators from 600 school districts in 46 states have attended IFI programs, as have participants from 10 countries.

In addition, IFI has published a series of facilitator's guides online for professional developers working with classroom teachers. These guides enable professional developers to lead their own workshops about the fundamentals of inquiry and the role of formative assessment in inquiry-based teaching and learning.

www.exploratorium.edu/ifi/workshops/fundamentals/

www.exploratorium.edu/ifi/workshops/assessing/

www.exploratorium.edu/tv/

Exploratorium Iron Science Teacher Videos

Cheer on the competitors in this zany science cook-off, where teachers compete before a live audience at the Exploratorium for the sought-after title, "Iron Science Teacher." Parodying the cult Japanese TV program, "Iron Chef," the Exploratorium's Iron Science Teacher competition showcases science teachers as they devise classroom activities using a particular ingredient—an everyday item such as a plastic bag, a milk carton, or a nail.

Browse hundreds of webcasts, video clips, podcasts, and slideshows from the Exploratorium's collection of original programming, from remote scientific expeditions to fun hands-on activities.

nsta.org/publications/blickonflicks.aspx

From NSTA - Blick on Flicks

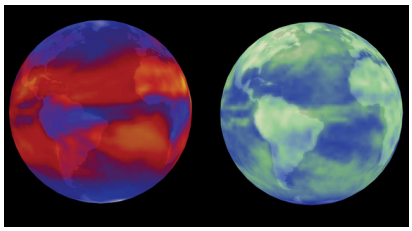
We all love watching movies. But we also love science. And sometimes the two don't mix! To help us sort the good science from the bad in movies and other visual media, Jacob Clark Blickenstaff provides expert commentary, pointing out where the physics is stretched, the chemistry fudged, or the biology twisted on behalf of the story—without losing sight of the fact that movies are meant to entertain.

Prof. Blickenstaff helps turn "bad science" into teachable science for middle level and high school students.

Blick on Flicks is a regular column in NSTA Reports and a periodic feature of NSTA WebNews.

Jacob Clark Blickenstaff is Assistant Professor of Physics and Assistant Director of the Center for Science and Mathematics Education at the University of Southern Mississippi.

Read the reviews or listen to the podcast.



spacemath.gsfc.nasa.gov/SMBooks/SMEarthV2.pdf

Mathematical Guide to Earth Science and Climate Change

A set of 46 math problems where students explore the simple mathematics behind global climate change through analyzing graphical data, data from NASA satellites, and by performing simple calculations of carbon usage using home electric bills and national and international energy consumption.
Teachers continue to look for ways to make math meaningful by providing students with problems and examples demonstrating its applications in everyday life. Earth Math offers math applications through strong motivation of discovery. Technology makes it possible for students to experience the value of math, instead of just reading about it. Technology is essential to mathematics and science for such purposes as "access to remote locations, sample collection and treatment, measurement, data collection and storage, computation, and communication of information." 3A/M2 authentic assessment tools and examples. The NCTM standards include the statement that "Similarity also can be related to such real-world contexts as photographs, models, projections of pictures" which can be an excellent application for all of the Earth Math applications.

spacemath.gsfc.nasa.gov/SpaceMath.html

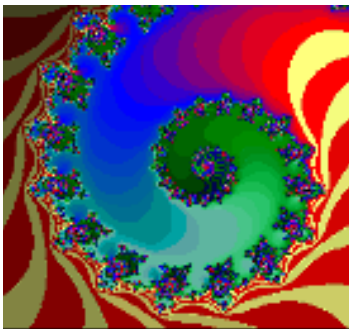
Space Math @ NASA

SpaceMath@NASA introduces students to the use of mathematics in todays scientific discoveries. Through press releases and other articles, we explore how many kinds of mathematics skills come together in exploring the universe.

Sample Problems
Problem 411: Lifestyles and Radiation Dose
Students see how the kind of lifestyle you lead determines most of your annual absorbed radiation dose. Some factors are under your control, and some are not. [Grade: 6-8 | Topics: unit conversions; amount=rate x time] (PDF)

Problem 410:Exploring Radiation in your Life
Students use a pie graph to calculate the total dose and dose rate for various factors that determine your annual radiation exposure while living on Earth. [Grade: 6-8 | Topics: unit conversions; amount=rate x time] (PDF)

Problem 409: The 2011 Japan Earthquake Rocks the Earth Using a simple physical model, students explore the principle by which the Japan Earthquake of 2011 caused Earth's rotation to spin up by 1.8 microseconds. [Grade: 9-12 | Topics: Algebra; evaluating an equation] (PDF)



www.coolmath.com/graphit/index.html

Coolmath's Graphing Calculator

The GraphApplet 1.0 is a full featured Graphing Calculator with some rare features added. This offers most of the features offered by handheld graphing calculators.

The GraphApplet graphing calculator has all the common operators and functions as expected from typical scientific calculators and graphing calculators for graphing functions.

The GraphApplet, like other graphing calculators, supports juxtaposition which means you can write your expressions just as you would write them on a piece of paper, for example xcos(x) or 5x^3-6x. The GraphApplet has support for symbolic differentiation using the diff function.

csunplugged.org/

Computer Science... without a Computer!

CS Unplugged is a collection of free learning activities that teach Computer Science through engaging games and puzzles that use cards, string, crayons and lots of running around.

The activities introduce students to underlying concepts such as binary numbers, algorithms and data compression, separated from the distractions and technical details we usually see with computers.

CS Unplugged is suitable for people of all ages, from elementary school to seniors, and from many countries and backgrounds. Unplugged has been used around the world for over fifteen years, in classrooms, science centers, homes, and even for holiday events in a park!

In addition to the Unplugged activities, we've collected lots of supplementary material on this site: videos, links, follow-up activities, photos, feedback, curiosities, information for teachers and more. Lots of this material comes from Unplugged volunteers and practitioners, and we'd love to hear about your experiences with Unplugged.

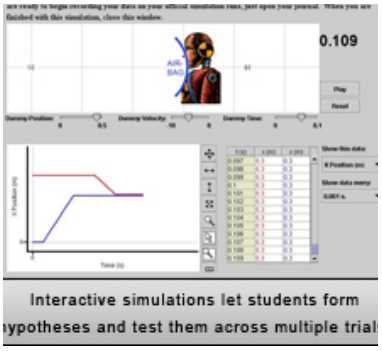
www.gmrv.es/rebeca-es/index.html

Rebeca - Alice Translated into Spanish

Rebeca is based on Alice, a project originally developed at University Carnegie Mellon.
Alice is an innovative 3D programming environment that makes it easy to create an animation for telling a story, playing an interactive game, or a video to share on the web. Alice is a freely available teaching tool designed to be a student's first exposure to object-oriented programming. It allows students to learn fundamental programming concepts in the context of creating animated movies and simple video games. In Alice, 3-D objects (e.g., people, animals, and vehicles) populate a virtual world and students create a program to animate the objects.

Rebeca has focused on eliminating the problem with the language. For students, the interface in English can be a major difficulty to learn how to programming with a 3D environment.

Rebeca is internationalized to accept any language and has been translated into Spanish.



wise4.berkeley.edu/webapp/index.html

Web-based Inquiry Science Environments

What is WISE?

The Web-based Inquiry Science Environment is a research-based digital learning platform that fosters exploration and science inquiry. Students observe, analyze, experiment, and reflect as they navigate WISE projects. Teachers guide and evaluate the process using a suite of classroom-based and online tools.

Inquiry Projects

WISE projects focus on science inquiry. Students explore new ideas and information, ponder discrepant events, write reflections, form fact-based theories, and validate these theories through discussion and model-based testing. Students can work alone, in pairs, or in trios (at the teacher's discretion).

Interactive Modules

Many WISE projects incorporate interactive models that help make micro and macro scientific concepts both visible and testable. Students experience the core processes of the scientific method as they form hypotheses, test them, analyze results, refine ideas, and retest.

Grants, Awards and Professional Development

Jacobs Educator Award Program

The Jacobs Educator Award honors outstanding technology-using K-12 teachers, but it is much more than a "teacher of the year" award. Jacobs Educators are part of a nation-wide community of highly successful teachers who work with the world renowned education faculty at the School of Education at Indiana University Bloomington in a variety of capacities, including teaching, research, and special projects and events. Additionally, each selected Jacobs Educator will receive: a $1500 stipend at the end of their one-year appointment, $1000 to be used to purchase technology resources to support their teaching, funds to support travel to Indiana University in order to participate in periodic events throughout the year. **education.indiana.edu/jacobs/Home/tabid/15001/Default.aspx**

Explorations in Computer Science for High School Educators

Do you need resources to show your high school students the exciting world of computer science? Join us for a 3-day summer workshop at Carnegie Mellon University where you can learn how to use lots of exciting examples in your classes to open the world of computer science to your students! **www.cs.cmu.edu/cs4hs/summer11/index.html**

Houghton Mifflin Harcourt Global Education Challenge

Through the Global Education Challenge, we hope to find truly original ideas that can become tangible tools to improve student outcomes across the globe--both inside and outside the classroom. We're building a community of innovators who share our goal, and together we'll discuss ideas for groundbreaking solutions to help transform student learning, foster family engagement, and enhance teacher effectiveness. We'll be giving away $250,000 in cash and prizes to the best ideas. Entries will be accepted from Thursday, May 19 through Friday, July 15th, 2011.
ideas.hmh.spigit.com/Page/CustomHome

PRISM Professional Development Resources

Included in our Newsletter section are PRISM Resource Spotlights featuring professional development resources for teachers and classroom resources for students mapped to the new Indiana Science Standards for Middle School.
www.rose-prism.org Click on Newsletters!

What PRISM Can Do For You!

- Easily find the perfect teaching and learning resources from our library of over 2,700.
- Save a list of your favorite resources for quick retrieval.and this
- Create and share lesson plans that teach your subjects utilizing your favorite resources.
- Develop online classrooms with interactive assignments, lessons, quizzes and more!
- Join discussions with students, parents, or other teachers inside chats and forums.
- 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 CRUs 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
www.rose-prism.org

I-STEM
West Central Indiana
STEM Resource Center

LILLY ENDOWMENT INC

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 Indiana Academic Standards for 6th, 7th, and 8th grade and secondary education courses.