

*Newsletter**Special Interest Articles*

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A “Boot Camp” Experience in Sustainable Alternative Energies at Rose-Hulman



July 10 – 15, PRISM will be facilitating the Sustainability and Alternative Energies Workshop for Indiana high school science / agriculture teachers on the Rose-Hulman Institute of Technology campus. The purpose of this institute is to provide the teachers a true “boot camp experience” in sustainable energies combining academic (in-class and lab) professional development on the Rose-Hulman campus along with vocational experience through site visits to alternative energy providers in Indiana. All participants will be housed in a residence hall on the Rose-Hulman campus during the institute. Meals will be provided.

During the institute, teachers are to be developing ideas for standards-based, practical and comprehensive units of content in sustainability and alternative energies to be used in their own classrooms. After completion of the workshop, teachers will be given time to go back to their classrooms to develop their units. PRISM Educational Liaisons will provide support in the creation of these online units (to be stored on Moodle) and will also – upon request – provide one day of on-site follow-up during the Fall Semester of 2016. A kit of materials for the on campus labs will be provided to the teachers after fully participating in the institute. Additionally, each participant will receive a Chromebook, a custom package of digital course materials, and 60 PGP points.

Registration will be available on the STEM Teach website at the end of March. To register, please visit:

<http://www.stemteachindiana.org/teachers/>

5-Minute Film Festival: 10 Great Video Resources for Teaching Math

by Amy Erin Borovoy, Edutopia



With Pi Day coming up, we wanted to shout out to all the amazing YouTube creators who are making math videos! (Of course, if it's Pi Day videos you want, check out our "Hooray for Pi Day" post.) Math may not seem like a natural fit for the visually-driven medium of video -- but you'd be amazed by the creativity of some of these creators who bring the complexities of all levels of math to life on the small screen. Math teachers, this one's for you!

Video Playlist: Best YouTube Channels for Math Teachers

[The Infinite Hotel Paradox - Jeff Dekofsky \(05:59\)](#)

Want to show your students [the math behind online dating](#)? Or share [the equation behind Michael Jordan's legendary hang time](#)? Or explain [why honeybees love hexagons](#)? TED-Ed's "[Math in Real Life](#)" playlist can help you out, and each video links to a lesson plan. This popular video explains the Infinite Hotel Paradox.

[What Was Up With Pythagoras? \(08:49\)](#)

If you're not familiar with [Vi Hart's](#) quirky Sharpie animations and stream-of-consciousness mathematical explorations, you should be. She has a way of taking you down a rabbit hole of philosophical wonderings -- [watch a few of her videos](#), and you'll be hypnotized.

[The Beauty of Algebra | Algebra I | Khan Academy \(10:06\)](#)

[Khan Academy](#) is the go-to resource for homework help on a mind-boggling array of subjects, but the now-giant company all started with Sal Khan tutoring his 12-year-old cousin Nadia, who was struggling with unit conversion. Listen to Sal's soothing voice explaining [arithmetic](#), [algebra](#), [calculus](#), [geometry](#), [trigonometry](#), and [more](#).

[Completing the Square - Solving Quadratic Equations \(04:36\)](#)

Khan Academy isn't the only player in the game of explainer videos for granular math problems; [PatrickJMT](#) also offers hundreds of videos on topics from [derivatives](#) to [quadratic equations](#). He boasts half a million subscribers, and he [takes requests](#)!

[Fold and Cut Theorem - Numberphile \(09:30\)](#)

Prolific YouTube creator Brady Haran runs about ten YouTube channels; [Numberphile](#) is where you can find engaging videos of professors exploring all manner of math-related topics. This one features [Katie Steckles](#) explaining the [fold and cut theorem](#).

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5-Minute Film Festival: 10 Great Video Resources for Teaching Math

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[Metric System Music Video \(01:34\)](#)

Elementary math teachers, we haven't forgotten about you -- [Numberock](#) is a new channel, created by a fifth-grade teacher in Massachusetts, that offers catchy animated math music videos for third, fourth, and fifth grade. You can also find [related worksheets, word problems, and quizzes](#) for a very reasonable price on Teachers Pay Teachers.

[Logarithm Equations with Different Bases \(12:14\)](#)

One of the things I love most about energetic math teacher [Rob Tarrou's](#) math videos is that he uses real chalk on an old-fashioned chalkboard, and the [most lovely cursive script](#), to write up his problems. [His website](#) offers organized lists of all his lessons -- he's made more than 500 videos since 2011, all while teaching full time.

[Stand-up Comedy Routine About Spreadsheets \(13:16\)](#)

Need to wake those students up at the start of a unit? Try showing them a clip of Matt Parker, the standup mathematician. A former math teacher from Australia, [Matt Parker](#) has made a career out of being both a stand-up comedian and a math communicator -- often at the same time.

[Integrals - Calculus \(05:55\)](#)

[CalculusExpert](#) is the channel of math educator Krista King, and she offers videos to help every level of math, from fundamentals to calculus. [Her website](#) offers subscription-based access to teaching resources for courses at all levels of math, but everything on YouTube is free, of course! [Her playlists](#) are a great place to start.

[Super Base \(WSHS Math Rap Song\) \(03:24\)](#)

When all else fails, engage your students by making a music video of a popular song with a math theme. [Wester-ville South High School](#) in Ohio has made an art of this -- their YouTube channel [WSHMath](#) features seven math music videos, and this parody of Nicki Minaj's Super Bass has more than 1.5 million views.

Read more online at: <http://www.edutopia.org/blog/film-festival-math-video-resources>

Campaign Redefines College and Career Readiness

by Nicole Gorman, Education World Contributor



At the latest American Association of School Administrators (AASA) national conference, educators unveiled a new campaign to better define what it means to be college and career ready after graduating from the nation's school systems.

"The Redefining Ready! campaign indicators paint a more accurate representation of students' potential. In addition to ACT and SAT benchmarks, the indicators include Advanced Placement success, dual credits, internship hours, career clusters, student attendance, community service and more," said eSchoolNews. The campaign aims to move away from simply standardized test scores and instead help define readiness for success through a wide range of measurements.

The need for such a campaign has become increasingly evident recently. "According to ACT, out of 1.9 million test takers nationally, only 59 percent of the 2015 high school graduates were deemed college ready," said eSchoolNews.

And just last week, a Hechinger Report article discussed how many of America's students are getting stuck in remedial education after graduating high school because they have been determined to not be ready to yet take college courses.

"Our new set of readiness indicators will open up the doors for more students to pursue their post-secondary goals with confidence," said AASA President David R. Schuler, according to eSchoolNews. The next step for the campaign is lobbying for national support. Following the conference, AASA members were encouraged to take the new indicators to their school boards for adoption.

Read more online at: http://www.educationworld.com/a_news/campaign-redefines-college-and-career-readiness-518979294

Professional Development Opportunities

Indiana American Association of Physics Teachers (INAAPT) Spring Conference

Calling all physics and physical science teachers in Indiana! The Indiana Chapter of the American Association of Physics Teachers (INAAPT) will have their 2016 spring conference on April 15-16, 2016 at Greenwood High School in Greenwood, IN. We'd love to see you there and sharing the amazing things we know that Indiana physics and physical science teachers are doing in their classrooms!

Any questions, please refer to the website at <http://inaapt.org> or email Stacy McCormack at smccorma@indiana.edu.

Indiana University Biology Summer Institute

The Biology Summer Institute is designed for high school biology teachers to learn about ongoing research in the Indiana University Department of Biology and to work with faculty to develop innovative exercises and experiments to take back to their classrooms to enrich their students' conceptual understanding of the life science curriculum.

When: June 20 -24

Where: Indiana University Bloomington Campus

Stipend: \$750 and lodging provided for teachers more than 1 hour away

Applications Due: March 31

More information: http://www.bio.indiana.edu/community/educators/biology_summer_institute.shtml

Conducting Field Investigations: An Educators' Workshop

Participants will try a wide variety of hands-on activities that they can use with their students. Activities are designed to sharpen skills in observation, questioning and designing investigations. Educators will utilize and receive materials from the Association of Fish & Wildlife Agencies' Toolkit for Conservation Education. This workshop is open to educators of all age groups, but best suited for grades 6 – 12.

When: Saturday, April 16

Where: Indiana Dunes National Lakeshore – Miller, IN

Registration Fee: \$35

Registration Deadline: April 1

More information: <http://duneslearningcenter.org/adults/>

Upcoming Events



The goal of STEM Teach II is to increase the number of highly-qualified teachers in science, technology, engineering, and mathematics in Indiana and to help high school teachers of dual credit courses meet new credentialing requirements. To achieve that goal, STEM Teach has brought together a group of private colleges and universities to offer STEM courses and workshops to K-12 teachers.

Classes and workshops are free for participating teachers! Tuition is waived and participants will receive completion awards for each successfully completed course or workshop. Textbooks or classroom materials will be covered by a stipend to the participating teacher or host institution. Due to limited funding, teachers may only enroll in a maximum of two courses per semester.

Completion Awards: \$500 for a graduate or undergraduate course
 \$250 for a 5-day workshop
 \$500 for a 10-day workshop

Registration: Opens March 28th at <http://www.stemteachindiana.org/teachers/>

What PRISM Can Do For You!

- Easily find the perfect teaching and learning resources from our library of over 4,000.
- Store your classroom materials online so that they are available to you from any computer.
- Select from free learning resources that emphasize visualization, rich context, staged-problem solving, and electronically enabled collaboration / communication.
- Save a list of your favorite resources for quick retrieval.
- Reach your students more effectively by using web media for the digital age.
- 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.
- Create and share lesson plans that teach your subjects utilizing your favorite resources.
- Earn PGP points 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.

*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