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Online Digital Resources for Indiana K-8 Computer Science Standards Are Now Available on PRISM

Introduction to Indiana's Academic Standards for Computer Science

[Indiana Academic Standards for Computer Science](#) are to be implemented in the 2016-17 school year in grades kindergarten through eighth. The expectation is for students to work through the standards in multi-subject areas and they are not to be formally assessed by the State of Indiana. As students move through the grade level bands (K-2, 3-5 and 6-8), there is a vertical articulation of standard indicators. The five core concept standards are: 1) Data and Information (DI), 2) Computing Devices and Systems (CD), Programs and Algorithms (PA), Networking and Communication (NC and Impact and Culture (IC). The standards must be complemented by well-developed, aligned, and appropriate curricular materials, as well as being, robust and effective.

Rose-Hulman PRISM Computer Science Resources

The Rose-Hulman PRISM team has built two online components to help Indiana K-8 teachers integrate computer science standards into their curricula: 1) Computer science standards have been added to the PRISM database of resources aligned with Indiana Standards and 2) Moodle courses for each grade level band have been populated with resources correlating with each standard.

Database of Resources

The first online component consists of the addition of over 225 computer science online resources to the PRISM searchable database. This is a database of online resources that are aligned and cross-indexed by subject and grade level to specific state standards and indicators for each standard. Resources in this database now span all math and science standards K-12, as well as, the computer science standards. The computer science standards can be searched by keyword or by focusing on the standards. This searchable database of online resources can be found by visiting the [PRISM website](#). Teachers do not have to create an account on PRISM to search this database; however, many more PRISM resources are available to teachers by creating an account.

Online Digital Resources for Indiana K-8 Computer Science Standards Are Now Available on PRISM

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PRISM Materials Finder

Standards: **all**
Technology: **all**
Professional Development Materials Search
Restrictive Search

Search here... 🔍

➕ Computer Science (229 Resources)
➕ Health & Wellness (2 Resources)
➕ Math (2196 Resources)
➕ Science (2431 Resources)
➕ Technology (92 Resources)

In the Main Menu on the PRISM website, click 'Search Materials'. By clicking on this link, a search engine is made available to the user. From this page, the user can either use a "keyword" or click on "Standards" and work through a series of dropdown menus to a specific standard and indicator to find online resources. If browsing by standards, click the blue plus icon to the left of the Computer Science catergory. Now, click the magnifying glass to search and you will see all Computer Science resources listed that are available in the database. Each resource can be favorited, embedded into a lesson plan or added to a Moodle course by the user. All resources in the database have been reviewed and aligned by the Rose-Hulman PRISM team.

Computer Science Moodle Courses

The second component built by the Rose-Hulman PRISM is the development of Moodle courses populated with computer science resources for K-8 teachers. The PRISM team has developed a Moodle course for each grade level band recognized by the Indiana DOE (K-2, 3-5 and 6-8). These Moodle courses are meant to be valuable resources for Indiana K-8 teachers integrating Computer Science Standards into their curriculum. The Compuer Science Standards are the focus and serve as the sections, or main topics, of each Moodle course. Each Moodle course has five main sections which correlate to the five core concept standards for computer science: 1) Data and Information, 2) Computing Devices and Systems, 3) Programs and Algorithms, 4) Networking and Communication and 5) Impact and Culture. Each of the sections are populated with online resources aligned with each standard and indicator. Types of resources found in the Moodle courses range from simulations to online videos, online exercises, gaming, virtual labs and various educational webpages. Many of the resources come from well-known and respected organizations like Code Studio, CS Unplugged, BBC Bitesize, ABCYa, and others.

Access to the Computer Science Moodle courses must be arranged by contacting Rose-Hulman PRISM staff. Teachers must have a PRISM account.

PRISM Welcomes the Input of Indiana Teachers

The Rose-Hulman PRISM team works to provide a high-quality web-based collection of digital resources for Indiana teachers. The PRISM team understands that many highly qualified teachers recognize and use other very good and high quality resources. The team welcomes teachers to submit resources that they use, and are unable to find on the PRISM website, to us for review and make available either in the database of resources and/or on one of the Moodle courses.

The Importance of 'Wow' in Learning

by Catherine Little   The Star Newspaper Ltd.

In our quest for higher test scores, let's not lose sight of "wow!" in learning.

My students let out a collective "wow!" the day I started a science class by projecting a light spectrum along the walls of the classroom. I had merely placed a beaker of water on an overhead projector but the resulting colours delighted the teenagers sitting in my class and set the tone for the unit we were about to study. It was a little thing but it mattered a lot. I always found my teaching more effective when I presented the "wow" before the "why."

Earlier in the spring, the announcement of Ontario's Renewed Math Strategy promised $60 million to combat falling EQAO scores. This fall, it was announced that just half of Grade 6 students met the provincial standard. However, there had been calls to revise the mathematics curriculum and "discovery math" long before this. Shouts for rote learning, memorization and basic facts have only grown louder.

I have nothing against memorization. I tolerated it as a student, assigned it as a teacher and helped my son through it as a parent. There is a time and a place for it and we could be using it more strategically. However, things have a way of swinging in education and as we scramble to improve test scores, we need to remember that the best learning starts with "wow!" Inspiration comes in many ways but I've never heard of it coming from a sheet full of math drills.

Recently, I met a number of innovators in Calgary at a five-day smash up of art, science and engineering called Beakerhead. Their ideas included solar powered lights that pack flat for easy shipping to disaster zones, glasses that help those on the autistic spectrum identify emotions in others and a capsule designed to survive a tsunami.

These were people coming up with innovative ideas to address important issues so I asked them to think back to elementary school and identify what helped them get to where they are now. They spoke about the importance of building things, collaborative projects to learn connections amongst subjects and kind teachers modelling civic responsibility and altruism. Although I suspect they were more than competent at math, no one said learning it inspired them.

The pressure to do well in math is not new. And now, it's not just math. For the past several years, there has been increasing emphasis on science, technology, engineering and mathematics (STEM) education. We have been told we need more students to study it and that all of our futures depend upon how well Canadians learn it.

But how can we get students to be inspired by it? Two and a half decades in the field has convinced me memorizing facts in isolation is not the way. We need to show students the "wow!" so they can see possibilities and connections. "Sixty minutes per day of protected learning time for effective math instruction and assessment" may help with basic facts but we still need inspiration.

As families across the province receive the EQAO scores of their own children and Bruce Rodrigues, CEO of the EQAO, transitions into his new role as Ontario's Deputy Minister of Education, parents and teachers must find a place where learning is both practical and inspirational. As we try to improve the test scores of students who did not achieve the provincial standard, we must remember those who have already met or exceeded it. That's why in addition to helping my own son learn his basic math, I go out of my way to show him the wonder-filled by frequenting science centres, art galleries and museums. We attend Science Rendevous, a free event that takes place in over 30 cities across Canada each spring, to immerse ourselves in ideas.

Jay Ingram, a co-founder of Beakerhead, uses the phrase, "First the wow. Then the why." I couldn't agree more. The day I produced a rainbow in my class, a student who hadn't considered himself strong in my courses had a revelation. He realized that understanding light and shadow were important to his art and that all his painting helped him understand the math and science so he was inspired to learn more.

Read more online at: https://www.thestar.com/opinion/commentary/2016/11/01/the-importance-of-wow-in-learning.html

Here are five apps to use with Google Cardboard!

By Monica Burns   Class Tech Tips

YouVisit takes students on virtual college tours. A virtual reality college tour is a great choice for students who might not be able to visit the number of colleges they plan on applying to in the future. Whether the cost of traveling to different spots in the country is prohibitive or the scheduling of multiple visits is just not feasible, YouVisit is a great resource for students.

Nearpod is a super cool presentation tool. Nearpod has now added a virtual reality component to their engaging lessons. With Nearpod VR, students can experience the world through virtual field trips to faraway places.

Thinglink is another favorite online tool. It now has virtual reality lessons that you can access from the mobile app. With Thinglink's VR experience students can transport to ecosystems around the world.

New York Times VR is an easy to use app with dynamic content. The totally free NYT VR app for iOS and Android devices let viewers experience the sights and sounds of places around the world.

Discovery Channel VR is another awesome virtual reality tool. The folks at the Discovery Channel have loaded this app with lots of great content. There are adventure experiences like deep sea diving and mountain biking and the opportunity to see endangered species in action. If you or your students are fans of Discovery Channel programming you'll love the content from shows like MythBusters and Survirorman.

Have you used Google Cardboard in your classroom?

Read more online at: http://classtechtips.com/2016/07/01/5-apps-use-google-cardboard/

Learn more about Google Cardboard: https://vr.google.com/cardboard/

Professional Development for Teachers

2017 HASTI Conference
46th Annual HASTI Conference
Science for a Healthy Indiana
February 1-3, 2017
Indiana Convention Center
Indianapolis, Indiana

2017 Conference Theme: Science for a Healthy Indiana

Indiana has a vibrant health and medical industrial sector that spans human medicine, food science, environmental health, and much more. Health and well-being are also topics our science educators support through learning both in and outside the classroom. Come join us for professional learning that highlights the ways our teaching impacts and learns from the health-related businesses and research.

Program Proposals
2017 proposal acceptance confirmations have been sent. We have more presentation time slots available! Please visit our Program Proposal page.

Exhibit Hall
Exhibitor registration is open! For more information and to register, visit the Exhibit Hall.

Conference Registration
Conference registration is now open! Register online now!

HASTI 2017 Has Gone Mobile!
The HASTI mobile conference app is returning in 2017! The app will be available for download on Guidebook beginning December 5. Those wishing to purchase a simple printed schedule (with session descriptions) may do so at an additional cost of $10. If you would like to purchase the schedule, you may add it to your registration under the HASTI Merchandise section.

Indiana STEM Education Conference

We are pleased to announce that Astronaut Col. Buzz Aldrin will be a special guest speaker at the 2016 Indiana STEM Education Conference. More details regarding the schedule for the day and other opportunities will be coming in early November.

The second-annual Indiana STEM Education Conference will be held at Purdue University on January 12, 2017. The Purdue University College of Education and Center for Advancing the Teaching and Learning of STEM (CATALYST), the Indiana Department of Education, and the Indiana Commission for Higher Education are proud sponsors of the conference. Indiana has increased momentum in K-12 STEM education over the past few years and this event is designed to capitalize on the knowledge and experiences that have been generated to continue moving Indiana forward. The goal of the conference is to provide a platform for dissemination of best practice in K-12 STEM teaching and learning in Indiana. There will be three strands that organize the conference: K-12 STEM practice, STEM education research, and STEM resources.

Strand 1: K-12 STEM Practice   Strand 2: STEM Education Research   Strand 3: STEM Resources

The daylong conference will be from 9 a.m. to 4:30 p.m. with lunch and parking included in the registration fee. All participants will have multiple offerings to select from for each of the five sessions across the day. Participants can choose selections from any and all strands as well.

To register for the conference - click the green "REGISTER NOW" button on the right side of the page. The number of participants for this event is limited, so please register early to attend.

More information: https://www.conf.purdue.edu/landing_pages/stem/

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 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.

- 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

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