

Curriculum reView

CIA Director - Dr. Joe Pierce

Dear PC Colleagues Anti-bullying resources

More and more stories continue to surface in the media about bullying. An article by Jennifer Holladay in *Teaching Tolerance*, provides some useful links on bullying prevention curriculum materials:

- A Thin Line, a social marketing campaign from MTV addressing the line between harmless jokes and hurtful speech and actions: <http://www.athinline.com>
- Bullying in Schools and What to Do About It, materials on the Method of Shared Concern, a restorative-justice approach to bullying interventions by former teacher and counselor Ken Rigby: <http://www.kenrigby.net>
- Cyberbullying: Understanding and Addressing Online Cruelty, a curriculum from the Anti-Defamation League for early, middle, and upper grades on the bigotry that fuels cyberbullying: http://www.adl.org/education/curriculum_connections/cyberbullying
- Middle School Cyberbullying Curriculum from the Seattle Public Schools: <http://www.seattleschools.org/area/prevention/cbms.html>
- NetSmartz from the National Center for Missing and Exploited Children and the Boys and Girls Clubs of America addresses online predators and peer-to-peer abuse: <http://www.netsmartz.org/resources/reallife.htm>
- Wired Safety, the Tween and Teen Angel programs that train and empower youth to lead presentations about responsible technology use for other children, parents, and teachers: <http://www.wiredsafety.org>

"Cyberbullying" by Jennifer Holladay in Teaching Tolerance, Fall 2010 (Vol. 38, p. 42-45), spotted in Education Digest, January 2011 (Vol. 76, #5, p. 9)

Change the Equation

A relatively new organization, known as Change the Equation, has issued it's own report on the state of STEM education in the US. The organization is composed of 110 of the country's largest science and technology based corporations.

Change the Equation is a non-profit, non-partisan CEO-led initiative to solve America's innovation problem. It answers the call of President Obama's Educate to Innovate Campaign to move the U.S. to the top of the pack in science and math education over the next decade. We aim to improve science, technology, engineering, and math (STEM) education for every child, with a particular focus on girls and students of color, who have long been underrepresented in STEM fields

Through its network of more than 110 CEOs, Change the Equation pledges to create widespread literacy in science, technology, engineering and math (STEM) as an investment in our nation that empowers us all. Five former and current CEO's form the Board of Directors of Change the Equation: former Intel CEO Craig Barrett, Time Warner Cable CEO Glenn Britt, Xerox CEO Ursula Burns, Eastman Kodak CEO Antonio Perez, and Sally Ride Science CEO Sally Ride and they received funding from the Carnegie Corporation of New York and the Bill & Melinda Gates Foundation.

Late last month CEO members of Change the Equation sent letters to the nation's governors that called for higher proficiency standards in science and mathematics, and also sent state-specific reports that assessed the condition of science, technology, engineering, and mathematics (STEM) learning in each state.

The Oklahoma report is included in this issue of the Curriculum reView. Read more about Oklahoma and the read the US report at <http://www.changetheequation.org>

Practical Spanish for Teachers

Have you ever thought about taking a quick Spanish course to get you started on your Spanish- learning journey? Practical Spanish for Teachers is a five-day course designed to do just that. The class will start on June 13 and will end on June 17. We will be meeting at the PC Center from 1:30 p.m. to 3:00 p.m. If you cannot attend all five days, please do not sign up for this course as it would not be beneficial for you to miss a presentation.

Although you will not receive any stipend for your attendance, you will be given a pocket-size Spanish dictionary, a conjugation book, and a Spanish and English comments book for report cards and notes going home. Additionally, you will receive a certificate of completion on the last day of class plus the satisfaction of being able to read and speak basic Spanish.

To register, log on to .PC and browse for Spanish for Teachers. Space is limited to 25 participants, so hurry up. If you have questions and/or need further explanation, please contact Dr. Jean Laine'.

Secondary Language Arts - Elizabeth Bailey

Workshop Opportunities

Teachers have a variety of spring and summer learning opportunities. Here are some options:

- Pre-AP and AP Summer Institutes at the University of Oklahoma--go to <http://www.cafe.ou.edu/advancedplacement/> and also at University of Tulsa at <http://www.utulsa.edu/ap-tulsa/>

You don't have to currently teach Pre-AP or AP in order to attend. There's no registration fee for public school teachers. These are terrific programs. You'll get teaching ideas that work throughout the year and have an opportunity to interact with great teachers. You can sign up for the OU and/or Tulsa summer institutes right now. Food and housing are provided (housing depends on how far away you live from the institute). These institutes fill up quickly so register as soon as possible.

- A Year One Laying the Foundation Workshop will be held August 1-4 at Edmond Santa Fe High School. Superb training. For details about Year One training, go to <https://www.ltfraining.org/English/TrainingModules.aspx> For registration information, go to <https://www.ltfraining.org/AboutLTF/Events/SummerInstitutes.aspx> The cost is \$450. Check with your principal and/or AP Coordinator or Gifted/Talented Coordinator about funding for this terrific workshop. The training modules will include approaches for reading a variety of texts (informational and literary) as well as both grammar and writing instruction. Receive terrific materials and learn strategies for a whole year of teaching. (Note: Some of you attended the first day of LTF training in Sept. 2007 and received a guide book. In addition, some of you attended the Close Reading training in August 2008. This new training has updated both of those days of training and added more modules which provide a well-structured overview of how to approach our English/Language Arts curriculum.)

- MAX Teaching Workshop on May 26-27: Teachers of ALL subjects are invited to attend and practice strategies to help students learn new subject matter while acquiring literacy skills. Todd Luke will be our presenter. He is highly

recommended by district teachers and administrators. As a career tech teacher, he has a unique ability to connect with teachers across the curriculum areas. MAX Teaching strategies correlate well with Marzano high-yield strategies. Todd Luke will utilize technology to enhance the teaching of the strategies which combine reading, writing, speaking, listening, reasoning, and collaborating. These strategies will help us more effectively teach common core standards and be reading for common core assessments which will include reasoning and writing across the curriculum. This May 26-27 Workshop will be held at Francis Tuttle, Reno Campus, from 8-3:30. Sign up on .PC. See the attached flyer for more details.

- State Department of Education Regional Conferences: This year's Oklahoma City regional conference will be held at Edmond Santa Fe High School on June 15. Sessions on the Common Core Standards will be included. To register for this free conference, go to <http://apps.sde.state.ok.us/regionalcurriculum/default.aspx>
- State Adolescent Literacy Conference: For details and registration for this free conference to be held June 20-21 in Oklahoma City, check the state department of education website at <http://www.sde.state.ok.us/Services/Conference/default.html>
- Technology Integration Professional Development Conference: June 29-30 in Oklahoma City. For details, go to <http://www.sde.state.ok.us/Services/Conference/default.html>
- Our district is offering a variety of fine workshops this summer related to reading and writing. Check out the options on the district website at .PC (scroll down the page to "Staff Login" to get to .PC); then go to Professional Development and click on Browse Opportunities.

Learning about the Common Core Standards

For information about the Common Core State Standards for English/Language Arts, visit the Common Core website at <http://www.corestandards.org/the-standards>

Scroll down to find documents with the standards, samples assessments (in Appendix B), sample student writings (in Appendix C), and more. Our state department of education website also includes details about the Common Core at <http://www.sde.state.ok.us/Curriculum/CommonCore/default.html> You can also attend the regional conference on June 15 mentioned in the list of workshops. Our district is aligning PASS and Common Core in the development of the 6th Grade Standards-Based Report Card.

Final Benchmark Tests

English I—May 4-13 Test Window; Paper/Pencil Test



Putnam City Schools

MAX Teaching Workshop

MAX is an acronym standing for motivation, acquisition and extension, three steps of a teaching framework that can be used to help students learn subject matter and improve their literacy abilities.

Sign Up on .PC: Keyword—MAX Teaching

This workshop will provide teachers with strategies to help students learn new subject matter while acquiring literacy skills. Todd Luke with MAX Teaching will be the presenter. These strategies also provide approaches to teaching Common Core Standards using technology.

Food, Fun, and Learning!

Teachers from **ALL** subject areas are invited to attend.

MAY 26-27
FRANCIS TUTTLE, RENO CAMPUS,
7301 W. RENO (RENO AND ROCKWELL)
HELD 8-3:30

30th Annual

Unfolding

Natural

Wonders

Putnam City Schools

Fine Arts Festival

Sat. May 7, 2011

10:00 - 4:00

Putnam City North High School

11800 N. Rockwell Ave.

- Performing Arts
- K-12 Art Exhibits
- Concessions
- Bake Sale
- Activities For All Ages

State Superintendent's Regional PASSages Curriculum Conferences

Register now for one of this summer's Regional Workshops produced by the Oklahoma State Department of Education. Online registration is open now. (see below) See the complete list of all the summer workshops available from OSDE at <http://sde.state.ok.us/Services/Conference/default.html>

Southeast Regional Conference

Date: Tuesday, June 14

Location: McAlester High School, McAlester

Southwest Regional Conference

Date: Tuesday, June 14

Location: Central Middle School, Lawton

Oklahoma City Regional Conference

Date: Wednesday, June 15

Location: Santa Fe High School, Edmond

Tulsa Regional Conference

Date: Wednesday, June 15

Location: Owasso High School, Owasso

Northeast Regional Conference

Date: Thursday, June 16

Location: Miami High School, Miami

Northwest Regional Conference

Date: Thursday, June 16

Location: Woodward High School, Woodward



Career Tech - Melinda Porterfield

The Putnam City CareerTech Department on behalf of the students recently purchased the "Peterson's Test Prep" package for the Oklahoma Career Information System (OKCIS). OKCIS provides a comprehensive overview of college and career opportunities through a seamless connection between career aspirations and preparation requirements.

The program prepares students for the Advanced Placement (AP), ACT, SAT, TOEFL, GED, ACT WorkKeys and Civil Service exams. It includes an Academic Skills Question Bank for Math, Reading, Writing (Grades 6-8, and Grades 9-12) and Science (Grades 9-12). The program also allows students to explore professional graduate exams like the GMAT, GRE, LSAT, MCAT, MAT and AFOQT.

Featuring multiple full-length, online practice exams with detailed answers to every question the student is able to familiarize themselves with the exam, determine where to focus study time and build test-taking confidence. OKCIS and the Test Prep program is available to all Putnam City students free of charge.

Summer Professional Development Opportunities

Differentiated Instruction with Diane Heacox May 26-27 Francis Tuttle Rockwell Bldg 7

Some children learn easily, while others struggle. How can teachers make sure that every child has opportunities to develop his or her talents? The answer is differentiation: changing the pace, level, or kind of instruction in response to learners needs, styles, and/or interests. Participants will receive Dr. Heacox's book.

MAX Teaching with Todd Luke May 26-27 Francis Tuttle Reno Campus

MAX Teaching strategies correlate with Marzano high-yield strategies. Todd Luke will model instruction, and we will practice a variety of these strategies for use across the curriculum. In addition, Todd Luke will utilize technology to enhance the teaching of the strategies. These strategies combine reading, writing, speaking, listening, reasoning, and collaborating. They will help us to more effectively teach common core standards and be ready for common core assessments which will include reading, reasoning, and writing.

AIMS Education for grades 3-5 May 31-June 3 Cooper Middle School

Hands-on activities that will: Increase teacher confidence and skills, use content aligned to OK state standards, have higher-order thinking skills incorporated throughout, address classroom organizational and management strategies. *Participants will receive manipulatives for classroom use.*

Pyramid Response to Intervention with Austin Buffman June 2-3 Francis Tuttle Rockwell Bldg 7

What does successful response to intervention (RTI) look like when all the pieces come together? This unique, comprehensive institute combines RTI and professional learning community (PLC) concepts into a single process focused on high levels of learning for every child. Learn how to get classroom instruction right the first time so that intensive interventions are not necessary. Experience hands-on activities and interactive keynotes.

Building Common Assessments with Laurie Robinson June 29-30 Francis Tuttle Rockwell Bldg 7

Learn the common formative assessment process from beginning to end. Understand how to collect meaningful instructional data that informs interventions and enrichment planning. Focus on the keys to accurate design and effective use of assessments. Gain supportive tools, such as planning templates and protocols. Leave with a framework for working interdependently to create high-quality assessments. *Books included*

The Bag Ladies

The Bag Ladies, also known as Karen Simmons and Cindy Guinn are classroom teachers who present Make 'n Take workshops and create hands-on projects for each of their 17 thematic units for grades K-6 and above. Both Karen and Cindy teach in Palm Beach County, FL and between them they have 40 years of teaching experience and have taught grades Kindergarten through Sixth. Their Make 'n Take workshops are energetic, enthusiastic, creative, motivational, and mostly fun. *Participants will receive materials for classroom use.*

Sign up for any and all of these on .PC

Foundations of Literacy

Check dates and times on .PC

The Write Ideas: Strategies for Effective Writing Instruction Prek-5 Admin. Bldg 3hrs

The purpose of this module is to help teachers with the knowledge and tools necessary to provide effective writing instruction. This three-hour module will promote knowledge and understanding of the writing process, writing traits and provide strategies for effective writing instruction.

Part to Whole: Teaching Phonics & Word Study Prek-5 Admin. Bldg 3hrs

This session will provide participants with the understanding that phonics is the systematic instruction of the relationship between letters and sounds that are fundamental to the reading process. This three-hour module will promote teacher's knowledge and understanding of phonics and word study as it applies to effective reading instruction.

Digging for Meaning: Teaching Text Comprehension Prek-5 Admin. Bldg 3hrs

Effective comprehension instruction is more than asking students to answer questions after reading. Rather, it is teaching students to interact with text and to take over their own reading and thinking. This three-hour module will promote knowledge and understanding of effective comprehension instruction.

Getting Up to Speed: Developing Reading Fluency Prek-5 Admin. Bldg 3hrs

Reading Fluency training is a three-hour module designed to promote knowledge and understanding of the different levels of fluency. These levels range from fluent recognition of letter/sounds, to words, then phrases, and passages. This module will increase teacher's knowledge of fluency instruction and provide them with tools necessary to provide effective instruction.

The Mighty Word: Building Vocabulary and Oral Language Prek-5 Admin. Bldg 3hrs

Without an understanding of words, comprehension cannot occur. The Might Word provides three hours of professional development to promote knowledge and understanding of effective vocabulary instruction in the classroom.

Sounds in Action: Teaching Phonological Awareness Prek-5 Admin. Bldg 3hrs

Phonological Awareness is the ability to notice, think about and manipulate individual sounds in words. This three-hour session will provide teachers with the understanding that spoken language is a series of individual sounds or phonemes and will provide teachers with the background knowledge and strategies necessary to effectively teach phonological awareness.

Sign up for any and all of these on .PC

Social Studies - Brenda Chapman

May is Asian Pacific American Heritage Month. In October of 1978, President Jimmy Carter signed a joint resolution designating the first ten days in May as Asian/Pacific Heritage Week. In May 1990, President George H.W. Bush designated the whole month of May as Asian Pacific American Heritage Month. May was chosen to commemorate the immigration of the first Japanese to the United States on May 7, 1843 and to mark the anniversary of the completion of the transcontinental railroad on May 10, 1869. A majority of the workers who laid the tracks were Chinese immigrants.

In July of 2008, 15.5 million United States residents said they were Asian alone or Asian in combination with one or more other races. This comprises about 5 percent of the total United States population. California has the largest Asian population at 5.1 million people, New York is second at 5.1 million, and Texas is third with 915,000. Hawaii has the highest proportion of Asian Americans in the total population at 55%. Chinese Americans are the largest Asian group with 3.62 million, Filipinos are second with 3.09 million, Asian Indians are third with 2.73 million, Vietnamese are fourth with 1.73 million, Koreans are fifth at 1.61 million, followed by the Japanese with 1.30 million.

On January 30, 2011 California celebrated its first Korematsu Day which honored Fred Korematsu. This is the first day named for an Japanese American. During World War II, Fred Kormatsu, a Japanese American, defied military orders and refused to go to an interment camp. He was arrested and was taken along with his family to an incarceration camp. He challenged the order and the United States Supreme Court upheld Kormatsu's conviction ruling that forced removal of Japanese Americans was justified by "military necessity". Approximately 120,000 Japanese Americans were detained in relocation centers. Kormatsu's conviction prevented him from finding work as a welder. In 1983, a judge overturned his conviction and in 1988 Congress passed legislation apologizing to internees and sent \$20,000 checks to every camp survivor. Korematsu championed the cause of civil liberties and was awarded the Presidential Medal of Freedom in 1998 by President Bill Clinton. Korematsu died in 2005 at the age of 86. Karen Korematsu, Fred's daughter, has said that her father's mission was education. She said that he believed it was important to teach about the Japanese American incarceration so that mistakes in history would not be repeated.

May is also Haitian Heritage Month. The largest celebrations are held in Massachusetts, New York, and Florida. May has great historical and cultural importance for Haitians and celebrating in May brings awareness to these. One reason is to honor Haitian General Toussaint Louverture who was born on May 20, 1743. Another reason May was chosen is to remember unity reached by Black and Mulatto officers at their historic congress on May 15-18,



1803 to fight together against slavery in the French colony of St. Domingue and for its independence, which they proclaimed on January, 1, 1804. The blue and red Haitian flag was created on May 18, 1803. In Haiti, May first has been celebrated as Labor and Agricultural Day. This is a day when workers, artisans, and peasants parade in singing together. During the government of Francois Duvalier, May 2nd was celebrated as Flowers' Day. Many cultural activities were held in the capital. Mother's Day is celebrated on the last Sunday in May and Haitians honor their mothers by wearing a red flower if their mother is alive and a white or purple flower if their mother is deceased. Great religious celebrations also occurred in May known by Haitian Catholics as the Month of Mary. May 17 is Teacher's Day and May 18 is University Day.

Let us honor our diversity in the United States by celebrating these cultural heritages.

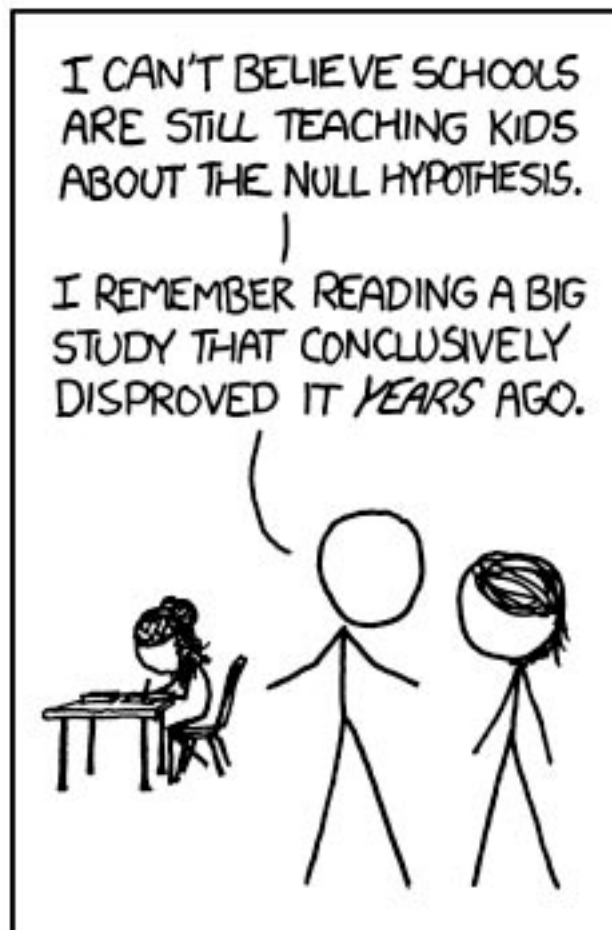
PEAK - Brenda Chapman

10 Ways to Differentiate Instruction Now

1. Ask students to rate, critique, or rank rather than remember, list, or explain.
2. Connect your curriculum to paintings, music, films, and other forms of art.
3. Require students to examine material from two very different points of view.
4. Let student inquiry guide a lesson.
5. Create a system that allows students to skip material they have already mastered.
6. Let students present material in a variety of ways (newscast, writing, video)
7. Comment on quality and effort, not just correctness.
8. Give gifted students opportunities to struggle and persevere. Then talk about it. Don't let them make it to college before they're truly challenged.
9. Teach about social responsibility and leadership.
10. Let students make choices about their work.

High Achiever...	A Gifted Learner...	A Creative Thinker...
Remembers the answers	Poses unforeseen questions	Sees exceptions
Is interested	Is curious	Wonders
Is attentive	Is selectively mentally engaged	Daydreams; may seem off task
Generates advanced ideas	Generates complex, abstract ideas	Overflows with ideas, many of which will never be developed
Performs at the top of the group	Is beyond the group	Is in own group
Learns with ease	Already knows	Questions: What if...
Needs 6 to 8 repetitions to master	Needs 1 to 3 repetitions to master	Questions the need for mastery
Enjoys the company of age peers	Prefers the company of intellectual peers	Prefers the company of creative peers but often works alone
Completes assignments on time	Initiates projects and extensions of assignments	Initiates more projects that will ever be completed
Enjoys school often	Enjoys self-directed learning	Enjoys creating
Is highly alert and observant	Anticipates and relates observations	Is intuitive
Is pleased with own learning	Is self-critical	Is never finished with possibilities
Gets A's	May not be motivated by grades	May not be motivated by grades

Null by www.xkcd.com





Evolution 2011, an international conference of scientists and students will be held between June 17 and 21 at the John Q. Hammonds Embassy Suites Hotel and Convention Center in Norman, Oklahoma. This is the annual joint meetings of the Society for the Study of Evolution, Society of Systematic Biologists, and the American Society of Naturalists and is the premier conference of evolutionary biologists on the planet. Talks and plenary sessions present cutting-edge research on topics ranging from molecular evolution to behavioral ecology, comparative genomics to computational analysis of biological data. Evolution conferences have been held in recent years in: Stony Brook, New York; Christchurch, New Zealand; Minneapolis, Minnesota; and Portland, Oregon. The conference consists of a lecture open to the public on Saturday (noon till 1 pm) (the Stephen J. Gould Award Lecture) followed by symposia presentations, concurrent contributed papers, poster sessions, and service provider exhibits over a four-day period. With an estimated attendance of 1400 to 1500 attendees, could be the largest scientific conference ever held in the state of Oklahoma.

EVOLUTION 101: A K-12 teacher workshop is offered to regional teachers on Friday, June 17th . Science educators from across the state of Oklahoma are invited to join evolutionary biologists and other science educators for "Evolution 101 – a one day workshop to be held at the Embassy Suites Hotel and Convention Center in Norman, Oklahoma on June 17. Come learn about recent research in the field of evolution, talk with evolutionary biologists, and attend sessions that feature hands-on activities for teaching evolution to all ages.

Here is the schedule for the workshop:

EVO 101: Evolution and Medicine

Friday June 17th 8 am – 5 pm

8-8:30 am – Registration, coffee and bagels.

8:30 am – Brief Introduction to SSE EVO 101 – Dr. Tom Meagher, Chair of SSE Education Committee

8:45 am – Brief overview of EVO 101 – Dr. Kristin Jenkins, National Evolutionary Synthesis Center

9:00 am – Science Talk: Dr. Cecil Lewis, Department of Anthropology, University of Oklahoma.

9:45 am – Break

10:00 am – Hands-on Activities

For K-7 Educators: Human Skin Color Variation: Exploring hypotheses. (Louise Mead)

For 7-14 Educators: Evolution and Medicine. Lessons from NIH/BSCS with Paul Beardsley

11:30 am – Lunch and conversations with scientists.

1:00 pm – Teaching Evolution in Elementary Schools – Linda Lacy, Science Coordinator, North Kansas City Schools

1:30 pm – Panel Discussion on Teaching Evolution with Linda Lacy, North Kansas City Schools; Dr. Vic Hutchison, University of Oklahoma; Dr. Paul Beardsley, BSCS; Dr. Louise Mead, National Center for Science Education; Brad Williamson, University of Kansas, AND OTHERS?

2:00 pm – Hands on Activities

For K-7 Educators: Evolution Readiness presentation and hands-on computer activity by Concord Consortium.

For 7-14 Educators: Our Common Ancestors: Primate Skull Lab OR have Brad present something.

3:30 pm – Break

3:45 pm – Science Talk: speaker TBA

4:30 pm – Raffle and Closing

Evening – Dinner (on your own).

7-9 pm – Opening Reception. Sam Noble Oklahoma Museum of Natural History

Saturday June 18, 2011

Noon – 1:30 pm – S.J. Gould Award Lecture

GOULD AWARD LECTURE: The winner of the 2011 Stephen Jay Gould Prize has not yet been named but will be an individual that has a distinguished career both advancing the science of evolution and in conveying that knowledge to the general public. The previous two recipients are Eugenie Scott and Sean Carroll. The Gould Award lecture will take place at 12:00 PM (noon) Saturday, June 18, in the Embassy Suites Convention Center in Norman, is free, and open to the public.

Further information can be found at the meeting website <http://www.evolution2011.ou.edu/>, which will be updated as more information becomes available. Questions can be directed to this email address: evolution2011@ou.edu



2011 SUMMER AIMS WORKSHOPS

REGISTER TODAY ON .PC!

Go to the Curriculum listings or search for AIMS

Increasing teacher confidence and skills

May 31 - June 3

Returning to Putnam City to enable teachers to confidently implement hands-on MATH AND SCIENCE strategies that improve student understanding and retention.

Activity-based



Collaborative, hands-on



Motivating!



Content aligned to Oklahoma Math and Science PASS standards

Higher-order thinking skills incorporated throughout

Classroom organizational and management strategies



AIMS onsite training is customized to meet PUTNAM CITY classroom needs, and it

Have you joined a .pc Learning Community?
<http://www.putnamcityschools.org/.pc>

The future of Oklahoma depends on its ability to boost student performance in science, technology, engineering and mathematics (STEM). Young people in Oklahoma will increasingly face stiff competition for jobs from people across the world, and to succeed in the global economy, students will need a much stronger foundation in STEM subject areas.

In this STEM Vital Signs report, Change the Equation has compiled critical data on the condition of STEM learning in Oklahoma. We provide these data to inform vigorous conversations about what it will take to improve STEM learning in the state. While there are no silver bullet fixes, the state can boost student outcomes by focusing on some key areas. For example:

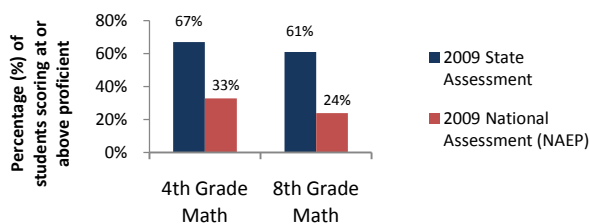
- Raise the bar on state tests.**
 The Oklahoma state test rates 61 percent of the state's 8th graders as proficient in math. That's far more than the 24 percent of Oklahoma 8th graders who score proficient on the National Assessment of Educational Progress (NAEP), which sets a consistent bar for student performance across the states and tracks international assessments.
- Focus on achievement gaps.**
 Like all U.S. states, Oklahoma has large achievement gaps between students of color and white students. Closing those gaps is both a moral and an economic imperative. The state should continually ensure that its policies target the diverse learning needs of all students, especially those who face the biggest hurdles, without diluting expectations.
- Improve preparation for college.**
 As in most states, large percentages of Oklahomans who enroll in college do not graduate. One way to address this problem is to improve college preparation by expanding participation in Advanced Placement (AP) programs. Few Oklahoma students participate in these programs.
- Foster more engaging science instruction.**
 Large percentages of students in Oklahoma say they seldom write reports on science projects, see their teachers do science experiments, or design experiments themselves. Strategies for addressing this problem include providing professional development and classroom materials that help teachers fully engage their students in science.

ACADEMIC EXPECTATIONS

We evaluated Oklahoma's academic expectations in math by comparing the proficiency rates on the state test with the proficiency rates on NAEP. When NAEP results are far worse than the results on the state test, the state might have low academic expectations.

- Does Oklahoma have high academic expectations of its students?**

Much smaller percentages of Oklahoma students were proficient on NAEP than on Oklahoma state tests.



Sources: NAEP, National Center for Education Statistics (NCES), 2009. Paul Peterson, "State Standards Rise in Reading, Fall in Math," Education Next, fall 2010.

STATE STANDARDS AND TESTS

Strong academic standards and tests are a critical foundation for teaching and learning. Forty-three states have agreed to adopt Common Core State Standards in math, and all of those states have joined state consortia to develop tests aligned to those standards. A national evaluation recently gave Common Core's math standards an A-minus for their quality.

- Has Oklahoma adopted *Common Core State Standards* in math? **Yes**
- Has Oklahoma joined a state testing consortium? **Yes**
- How do Oklahoma math standards fare on a national evaluation? **B+**

Sources: *Common Core State Standards Initiative*, 2011. *Achieve, Partnership for the Assessment and Readiness for College and Careers* Fordham Foundation, *The State of State Standards—and the Common Core—in* 2010.

STUDENT PERFORMANCE AND ACHIEVEMENT GAPS

Student performance varies widely within and among states. NAEP allows states to compare themselves against other states, measure achievement gaps among different groups of students and track students' improvement over time.

- How do Oklahoma students compare nationally?**

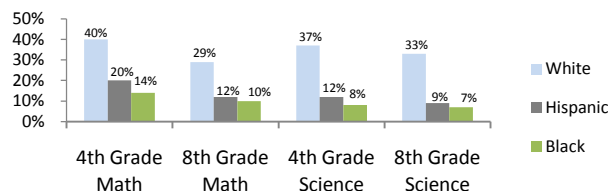
2009 NAEP: Percentage of Students at or Above Proficient

	Oklahoma	U.S.	Average of Top 3 States
4 th grade math	33%	38%	56% (MA, MN, NH)
8 th grade math	24%	33%	48% (MA, MN, NJ)
12 th grade math	N/A*	25%	33% (MA, NH, NJ)
4 th grade science	25%	32%	46% (MA, NH, VA)
8 th grade science	24%	29%	42% (MA, MT, ND)

Source: NAEP, 2009. *Oklahoma was not among the 11 states that participated in NAEP's 12th grade State Pilot Program for Mathematics in 2009.

- How large are achievement gaps among demographic groups?**

2009 NAEP: Percentage of Oklahoma Students at or Above Proficient



Source: NAEP, 2009.

Change the Equation is a national coalition of more than 110 corporate CEOs who are committed to improving science, technology, engineering, and mathematics (STEM) learning for every child, with a particular focus on girls and students of color.

STUDENT PERFORMANCE AND ACHIEVEMENT GAPS (CONTINUED)

• Is student performance improving in math*?

NAEP scale scores give states a way to track trends in student performance. NAEP scores in math range from 0 to 500. The average national score for 4th grade math is 240, and the average for 8th grade is 283. The tables below compare progress in Oklahoma to progress in the most improved states.

4th grade math

	OK NAEP Scale Score			Change since 1996	
	1996	2003	2009	Oklahoma	Most Improved State
All	N/A	229	237	N/A	+32 (DC)
White	N/A	235	241	N/A	+26 (MA)
Black	N/A	211	222	N/A	+35 (FL)
Hispanic	N/A	220	229	N/A	+38 (DE)

8th grade math

	OK NAEP Scale Score			Change since 1996	
	1996	2003	2009	Oklahoma	Most Improved State(s)
All	268	272	276	+8	+21 (DC, MA)
White	N/A	278	282	N/A	+22 (MA)
Black	N/A	249	261	N/A	+28 (FL)
Hispanic	N/A	258	263	N/A	+39 (DC)

Source: NAEP, 2009. "N/A" denotes insufficient data for analysis

*The NAEP Science tests were revised for 2009, making comparisons with prior years invalid.

• What percentage of 9th graders graduates from high school in four years?

Oklahoma: 72% U.S.: 69%

Source: Editorial Projects in Education, 2011. Data for school year 2006-07.

TEACHING AND LEARNING

All students should carry out and reflect on engaging science projects. Yet many U.S. 4th and 8th graders say they hardly ever do. This table lays out what Oklahoma students say about math and science in their schools.

• Percentage of Oklahoma 4th grade students who report that:

	Oklahoma	U.S.
They "often" or "almost always" like math	59%	63%
They "often" or "almost always" think math work is too easy	36%	38%
They "never or hardly ever" do activities or projects in science	31%	23%
They "never or hardly ever" talk about results of science projects	40%	36%
They "never or hardly ever" write reports about a science project	63%	54%

• Percentage of Oklahoma 8th grade students who report that:

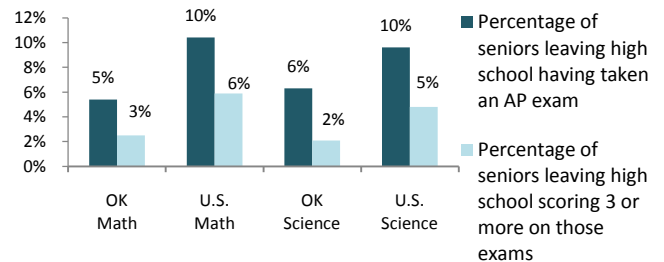
	Oklahoma	U.S.
They "agree" or "strongly agree" that they like math	60%	64%
They "always" or "almost always" think math work is too easy	24%	29%
They "never or hardly ever" design a science experiment	50%	39%
They "never or hardly ever" watch their teacher do an experiment	41%	24%
They "never or hardly ever" write reports on science projects	60%	47%

Source: NAEP, 2009.

PREPARING FOR AND SUCCEEDING IN COLLEGE

The U.S. faces a shortage of 3 million college graduates by 2018, because U.S. students attend and graduate from college at low rates. States that do not meet the demand for college-educated workers may forfeit vital opportunities for economic growth.

• What percentage of students takes Advanced Placement tests in math and science, and how do they do?



Source: College Board, AP Report to the Nation, 2011. Data for class of 2010.

• What percentage of students attends and graduates from college?

	Oklahoma	U.S.
Percentage of associate's degree candidates who graduate within three years of enrolling	28%	28%
Percentage of bachelor's degree candidates who graduate within six years of enrolling	47%	56%
Percentage of all 18-24 year olds enrolled in college	33%	36%

Source: National Center for Higher Education Management Systems, 2008.

• What percentage of bachelor's degrees conferred in Oklahoma is in STEM fields?

Oklahoma: 14% U.S.: 15%

Source: NCES, 2009 Integrated Postsecondary Education Data System, fall 2009. Data for school year 2008-09.

TEACHERS

Teachers have the most significant impact on student learning among school-based factors. It is critical that math and science teachers have a strong academic background in the subjects they teach.

• What percentage of 8th graders have teachers with a major or minor in math?

Oklahoma: 53% U.S.: 57%

Source: NAEP, 2009.

For more information on data sources for this report, see www.changetheequation.org/vitalsigns.