



Iowa Council of Teachers of
Mathematics

Report—Spring 2017

A Message from Your ICTM President

As another school year winds down, I reflect on my career and am astonished by all of the changes I have made over the years to my instruction. There is a big part of me that wants to invite the students back from my first three years of teaching and give them their money's worth. Were we engaging in high-level discussions about mathematics in my class back then? Was the classroom student-centered? I am certain that it wasn't. I developed my craft over time, just as all of you, and it makes me beam with pride that our ever-evolving instructional pedagogies are producing better learning outcomes.

Just think of where we will be in another 20 years! Deepening conceptual knowledge has always been my passion, and I am excited about learning better ways to maximize my students' potential. I can literally feel the energy created by the professional mathematics education community that has consistently led the way in education via content standards and instructional practices.

If you are feeling isolated from the growing movement to create engaging lessons that make kids "notice and wonder" the underlying mathematics, join in and become a part of it. The opportunities in Iowa are on the rise, and you can take part in it. Plan to attend the Secondary or Elementary Summer Mathematics Institutes events sponsored by the Iowa Department of Education (June 13 and June 14, respectively). Steven Leinwand, Margaret Smith and DeAnn Huinker will be there, so you will have first-rate access to lead writers of NCTM's *Principles to Action*. Implementing the effective teaching practices outlined in the *PtA* book will bring success found in research to your classroom.

We would also love to see you attend ICTM's Math Conference on Monday, October 9 in West Des Moines. Our conference, "Mindset for Action," will focus on a number of strands that will enhance professional learning for all levels of math educators PreK-16. Our keynote, Max

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Brooke Fischels, ICTM President

A Message from Your ICTM President (ctd.)

Ray-Riek, specializes in getting students engaged in active problem solving and fostering classroom discussion. Conference registration is open at www.iowamath.org, or you can fill out the form found in this newsletter.

Are you a first-year teacher? Join us for a free event the evening before our conference! ICTM annually hosts approximately 75-100 prospective and new teachers through an evening of panels, break-out sessions, and an opportunity to work directly with our keynote. We even offer you dinner! More information about our free pre-conference is also available at www.iowamath.org.

Enjoy the summer! Use the time to rejuvenate, attend an institute or classes, and plan to attend our conference in the fall.

Sincerely,
Brooke Fischels
ICTM President



2017 ICTM ANNUAL MATH CONFERENCE

“Mindset for Action”

Monday, October 9, 2017

Valley High School
650 Woodland Ave.
West Des Moines, IA

- This year’s conference will be back to a math-only event, rather than combined with the science teachers organization.
- Presenter proposals will be accepted through mid-May.
- Participant and vendor registration are now open.
- The conference program will be available online at www.iowamath.org in late July.

Meet Our Keynote Speaker

Max Ray-Riek works at The Math Forum at NCTM and is the author of the book *Powerful Problem Solving*. He is a former secondary mathematics teacher who has presented at regional and national conferences on fostering problem solving and communication and valuing student thinking. He says, “There’s so much being figured out right now about how math can be taught as a dynamic, engaging subject where everyone has unique ideas that matter... One of the most exciting problems facing the world today is how to teach math in a way that builds on students sharing their ideas.” You can read a full interview with Max Ray-Riek at <http://smts.ca/spotlight-profession-max-ray-riek/>.



New Journal Now Available

Iowa Council of
Teachers of Mathematics

Journal

Volume 41 Winter 2016-17



How much mathematics is in a tree?

If you haven't read it yet, be sure to check out the Winter 2016 – 2017 *ICTM Journal*. The journal is available electronically at www.iowamath.org. Topics featured in the new journal include:

- Tree inquiry ideas
- Discrete mathematics
- Implementing problem solving in middle school
- Implementing high-level mathematics teaching – The case of the Flag Day task
- 12 math rules that expire in the middle grades
- LEGO problem solvers
- Implementing number talks
- Perspectives on soft skills and mathematics in the classroom
- Book reviews, web bytes, mini-lessons, and STEAM ideas

Register for Conference Now

**ICTM
Annual Conference
October 8th – 9th, 2017**

Valley High School
West Des Moines, Iowa

Registration Form

(Make copies as necessary – only one participant per form)

	Postmarked by September 22 nd , 2017	Postmarked after September 22 nd , 2017 and Onsite Registrations
Sunday evening Conference October 9th, 2016		
ICTM member	\$65.00	\$85.00
ICTM membership/Registration	\$90.00	\$110.00
Non-Member	\$95.00	\$115.00
Full-Time Student	\$20.00	\$20.00
ICTM member Presenter (Primary Presenter Only)	\$40.00	N/A
Non-member Presenter (Primary Presenter Only)	\$65.00	N/A
Total Fee Enclosed		

TOTAL FEE ENCLOSED: \$ _____
(No refunds after October 1st. Make checks payable to ICTM and circle registration fee in the matrix.)

Name _____

Position/Title _____

School Name _____

(Name, Position/Title, and School Name will be printed on your name badge. Please double check for accuracy.)

School Address _____

State _____ Zip _____ AEA _____

School Phone _____ Grade Level Taught _____

E-mail Address _____

(Please double check for accuracy. Confirmation of your registration will only be sent by e-mail.).

Complete and mail this form with fees to:

Maureen Busta

ICTM

2382 Iowa Highway 24
New Hampton, Iowa 50659

Government Liaison Report

I am writing this on April 10, 2017 after the final funnel in this legislative session. Bills that have already passed and been signed by the Governor include:

- A bill requiring the Department of Education (DE) to issue the RFP for the selection of a statewide assessment to be administered in the 2018-2019 school year. This assessment will replace Smarter Balanced testing, previously approved by the DE. Now a new assessment aligned with Iowa Core academic standards needs to be found to measure English language arts, mathematics, and science. This assessment will be given in grades 5, 8, and 10.

The following items have been approved by both bodies of the legislature and are either signed or expected to be signed by the Governor.

- Two flexible spending bills for schools will allow school districts to move unobligated funds to other areas of need in the district. These funding shifts would need to be approved by the district's school board following a public hearing.
- Requiring "high-quality computer science instruction" (Seivert, 2017) is a bill sent to the Governor on April 25. Note that the bill does not include a mandate to school districts for implementation. Instead, the bill calls for a committee to be formed with the purpose of making recommendations by November 2017.
- A bill that requires the DE to adopt rules regarding high school equivalencies has been signed by the Governor. The overall bill would allow students to focus on core competencies not met with post-secondary coursework. What is created must align with existing assessments like HiSET and the Adult Diploma offered by some Iowa community colleges.
- Another bill has been passed increasing local control for school districts. School districts will be able to, "... liberally construe Iowa Code and make policy decisions that are not specifically outlined in code" (Seivert, 2017). School districts have been limited to implementing only what is in the Iowa code, if this passes the Senate they will be able to interpret the code locally.

While the Education Savings Accounts, also known as school vouchers, did not become law this session, it is clear that this will be revisited in next year's legislative session. It may serve us well as a community of citizens who understand and care about public education to be ready to educate our representatives about the implications of vouchers in Iowa. Another bill that was not approved would have allowed parents and guardians of students at a school to give the school a "no confidence" rating. If a majority of the parents and guardians at a school sign a petition indicating that the school is not meeting their children's needs, the school is required to do what the parents think is needed to "turn around" the school. Similar legislation has already passed in some states and will probably be revisited in the next session in Iowa.

Related to federal government news, all of the teacher education parts of ESSA were overturned. So, as of now, no grading of teacher education programs will be part of ESSA. What will replace it is unknown and there appears to be no movement federally to redefine the teacher education part of ESSA. The federal budget for the upcoming fiscal year has not yet

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Government Liaison Report (ctd.)

been passed by the legislature. That said, the president's budget contains deep cuts to education, 13% cut to education overall. At this time, the budget has not been finalized, so what ends up happening to federal education cuts remains to be seen.

The President issued an executive order late in April requiring Education Secretary

Devos to undertake a study to "determine where the federal government has unlawfully overstepped on state and local control," (Pilkington, 2017) with the goal of returning control of education to states. Part of this appears to be directed toward the Common Core State Standards, making them no longer part of federally funded directives.

— Catherine M. Miller

References

American Association of College of Teacher Education. (2017) Ed Prep Matters. Retrieved on May 2, 2017 from <http://edprepmatters.net/2017/03/presidents-fy18-budget-blueprint-includes-deep-cuts-to-education/>.

Iowa Legislature. (2017) Bill Book. Retrieved on May 2, 2017 from <https://www.legis.iowa.gov/legislation/BillBook>.

Pilkington, Randy. (2017) Executive Order Coming Today. Sent to C. Miller on April 26, 2017.

Seivert, Shan. (2017) Legislative update for 4/09/2017. Retrieved on April 10, 2017 from <https://content.govdelivery.com/accounts/IACIO/bulletins/1918a2d>.

New Iowa CORE Blog



A new Iowa CORE blog is now online. The blog is written by Mary Watson, an eighth and ninth grade math teacher at Peet Junior High in Cedar Falls. She is a member of SMLT and a teacher leader. You can check out the Iowa CORE blog at <https://iowacore.gov/blog/it-okay-focus-one-thing>.



Check out the new look of the ICTM website

www.iowamath.org

Math Props

Throughout the years I have collected many unique objects that I use to amp up the excitement and curiosity for the tasks that we do in my classroom. Students see these objects when they first walk into my room in August and wonder why I would have a giant gummy bear or five bags of Doritos. Seeing these objects on a daily basis keeps the anticipation levels high. Students are always curious as to when we will use these objects and for what purposes.



Super Bear

Here are just a few examples of the objects I have in my classroom along with the activities that go with each task. What objects could you have in your room to help engage students further with the tasks you are presenting?

Super Bear (by Dan Meyer) <http://mrmeyer.com/threeracts/superbear/>

The videos are great, but having the actual bear makes this more real for the students. Many students have never seen a gummy bear this size, and to see this in real life engages students instantly.



Doritos Roulette (By Kyle Pearce)

<https://tapintoteenminds.com/3act-math/doritos-roulette-hot-or-not/>

The students love this task because we actually eat the chips and collect data. The best question I ask with this task is if the front of the picture on the bag is accurate or not. If not, what should the picture look like?

Money Duck (By Dan Meyer)

<http://blog.mrmeyer.com/2014/3acts-money-duck/>

With an assist from me... <http://blog.mrmeyer.com/2014/the-money-animal-marketplace-was-the-most-fun-i-had-doing-math-this-summer/>

The first five minutes we investigate this duck, students think they have found a get rich quick scheme. Once I share the numbers I found from the company (in the second link I shared), they become a little more realistic. So far we have only gotten ones in the ducks, which is expected, but I am waiting for the day we get the 50!



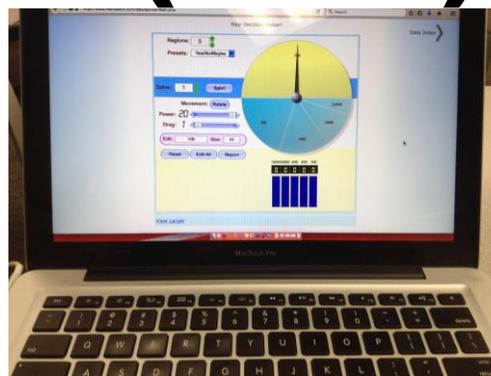
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Math Props (ctd.)

Expected Value Spinner (By Dan Meyer)

<http://blog.mrmeyer.com/2011/shoulda-woulda-coulda/>

We set up this task by ending class for 20 straight days spinning this spinner once each day. Students select a space on the spinner that they must keep for all 20 spins. The object is to have the most points after 20 spins. You only get points if the spinner lands on the space you originally expected. There is so much discussion to be had here. A few things I have the students do are change the values in the spaces but not the size of the spaces to end up with an equal expected value for each space, and then keeping the original point values the same but changing the size of each space to have an equal expected value.



Growth Lizard (By ???)

I don't remember where I found this, but the idea of this task is to find a creative way to figure out if this lizard really grows 600% or even anywhere close to the claim on the box. A lot of it depends on how long you leave it in water, which could be another math task altogether. I emptied out one of my trash cans in my room and filled it with water. I let the lizard sit in the water for a week before we did this task. After a week, we did the task and as you would expect, it grew nowhere near 600%, but after I left it in for a month, it was enormous, and close to 600%. This task is great because the lizard itself isn't a perfect 3D shape, so students do have to be a little creative with how they figure this out.



— *Dr. Clayton M. Edwards*
Mathematics Instructor
Grundy Center Middle School

Pre-Conference Again Offered

Again this year new and future teachers are invited to a special welcome session created just for them. There is no charge for the ICTM Pre-Conference. Dinner is included. Participants will receive free teaching materials and ideas, meet with master teachers, and enjoy fun activities with fun people. This year's pre-conference will be Sunday, October 8, starting at 5:45pm at Valley High School, 3650 Woodland Ave., West Des Moines, IA 50266. Registration is not required but is appreciated. You can register at www.iowamath.org.

From the VP-Post-Secondary:

As you wind up the academic year, add some fun to your classes. Check out the Mathematical Association of America's (MAA's) Fun Math: <http://www.maa.org/programs/students/fun-math>.

As you think about summer, why not add some award winning mathematics article to your summer reading? Go to <http://www.maa.org/programs/maa-awards/writing-awards> to explore different awards. Or, explore articles on Jo Boaler's youcubed site: <https://www.youcubed.org/>. I also highly recommend her book "Mathematical Mindsets". The book is loaded with great resources. I'm using several of her ideas in my Mathematical Concepts (for prospective elementary teachers) course.

What interesting things are you doing in your classroom? We'd love to hear about it and see you share it with others, maybe at the 2017 Math Fall Conference at Valley West High School on Monday, October 9. You have until May 15, 2017 to propose a session for this fall's conference: <https://www.iowamath.org/conference/>.

Do you work with pre-service teachers? Encourage them to attend ICTM's Pre-Conference the night before (Sunday, October 8); events at the pre-conference are free (dinner is included) and planned especially for pre-service and new teachers! Check out <https://www.iowamath.org/preconference/> for more details; go to the [registration form](#) to register.

— *Wendy Weber*

VP-Post-Secondary
weberw@central.edu

Meet the New Prairie Lakes Regional Director

My name is Chandra McMahon. I was voted onto the Iowa Council for Teachers of Mathematics Executive Board as the Prairie Lakes Regional Director. I currently teach at Humboldt High School. I wanted to introduce myself and send out some information.

There is a new website for ICTM. Please check us out on the ICTM website at <http://www.iowamath.org>. You can renew your membership here (paper or electronic) and find out more information about the 2017 ICTM annual conference (Math only conference - flier below). We are looking for presenters (due by May 15) and registration is now open. There are many resources on the new website along with some grants that have a deadline of June 30. Please check out the website.

Please let me know if I can help with any of your needs.

From the State Math Consultant:

Hi Everyone,

I hope that you all have a wonderful summer! There have been many changes in our scenery over the last few months in Iowa and education. I commend you all for staying positive and continuing to change the futures for student's one math problem at a time. We know the more mathematics students understand, then the more doors will open to them. We want Iowa students to have many doors that are open to them. I saw a brilliant tweet the other day; **No one has ever died from doing more math!** Profound!

I am so thrilled that we have so many educators attending the Summer Institute for Mathematics ~ Principles to Actions. We have around 1,500 educators attending across the state. This will be a great group to begin this work around increasing effective and efficient mathematics instruction. We will be sharing many tools after this training through the Virtual Coaching Network and to the participants. This is our first attempt on a large scale to increase the consciousness that we know how to increase mathematics experiences for our students. It is the instruction in the classroom that makes the difference for students and we can continue to grow in our capacity to make students college and career ready.

I would encourage you to continue to look at the Iowa Core Website for great resources. There are many valuable resources that can be used to support the work that you are doing in your districts. I have often found that it is easier to edit something than to build it from scratch. We still want to continue to strive to implement the standards and the standards for mathematical practices. If you have not tended to the Shifts in the standards, **Focus, Coherence, and Rigor**, then I would encourage you to take some time this summer and look at the resources on Achieve the Core. I thought that I knew the shifts and I continue to learn and understand them more and more all the time. These are two great modules that I have found very valuable.

[Introduction Module](#) [Deep Dive](#)

Remember to save the date for the ICTM conference this fall October 9, 2017! Many exciting potential sessions! I can hardly wait! There are so many great things happening in Iowa for education. I will be looking for you all there! :)

April Pforts

State Mathematics Consultant
Iowa Department of Education

Questions, comment, or to sign up for a Virtual Network list and be kept in the loop of information, email me at april.pforts@iowa.gov

Iowa Math Links

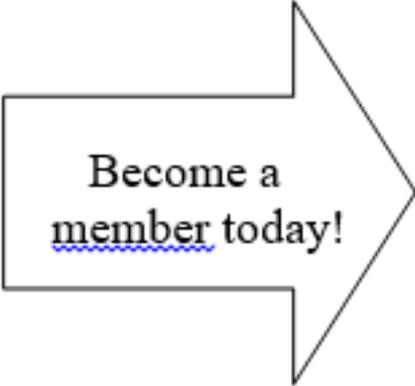
- [IDOE - Mathematics](#)
- [IA Core Standards](#)
- [IA Core Resources](#)

Virtual Resources

- [IA Math Blog](#)
- [Twitter](#)
- [Linkedin](#)



**Iowa
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Become a
member today!

Membership Form

Name

Home Address

Home City State Zip

Home Phone

E-Mail Address

AEA # School Name

School District

Check your main interest:

- | | |
|--------------------------------------|--|
| <input type="checkbox"/> Grades K-2 | <input type="checkbox"/> Post Secondary |
| <input type="checkbox"/> Grades 3-5 | <input type="checkbox"/> Special Education |
| <input type="checkbox"/> Grades 6-8 | <input type="checkbox"/> Library/Media |
| <input type="checkbox"/> Grades 9-12 | <input type="checkbox"/> Supervisory/Admin |

Annual Membership Fees:

- | | | |
|--|------|---|
| <input type="checkbox"/> Regular | \$25 | 1 year |
| <input type="checkbox"/> Regular | \$45 | 2 years |
| <input type="checkbox"/> Regular | \$60 | 3 years |
| <input type="checkbox"/> Student | \$5 | |
| <input type="checkbox"/> Retired | \$5 | (\$0 if member for past 5yrs) |
| <input type="checkbox"/> Institutional | \$50 | (elem. schools only – see
iowamath.org for more info.) |

Amount enclosed: \$ _____

Send membership form and registration fee to:

ICTM
2382 Iowa Highway 24
New Hampton, Iowa 50659

48th Annual
ICTM Conference
Monday, October 9, 2017
Valley High School – WDM



Your ICTM Executive Board

Educators from all over the state serve on the ICTM Executive Board. Members are represented by elected Regional Directors based on your AEA region.

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