

KATM Bulletin

Kansas Association of Teachers of Mathematics

SAVE THE DATE!!!!!!

December
2019

2020 KATM Annual Mathematics Conference

**September 28,
2020**

**Shawnee Heights High
School
4201 SE Shawnee
Heights Road
Tecumseh, KS**



A Message from our President

How is it possible that the school year is half over! I hope you had a good first semester.

I hope many of you had the opportunity to attend the KSDE Regional Math trainings this fall. You have one more opportunity to attend the training in Dodge City on January 31, 2020 to learn more about “Developing a Mathematical Growth Mindset to Increase Students’ Engagement, Perseverance, and Success” and “Creating Real-World Learning Situations in Your Math Class.” You can register at <https://community.ksde.org/Default.aspx?tabid=6607>

I want to extend a sincere thank you to Melissa Fast and her team of trainers. It takes much time and energy to plan and implement these trainings. With all the new ideas, I am always motivated to make changes in my classrooms.

Remember to keep posting and asking questions on the KATM Facebook page. Find us at “Kansas Association of Teachers of Mathematics.”

Enjoy this holiday season.

Janet Stramel

Dear Kansas Math Teachers,

Whoa, we're halfway there.....does it feel like we're living on a prayer? Maybe just until we get to Christmas break! It's always hard to believe how quickly school goes once the year gets going. Winter can be a tough time to get through the middle of the year. I hope it is a year you're enjoying!

We are continuing to tweak our Bulletin. We're hoping to make it as easy as possible for you to read and get the information that you need quickly! As much as possible, we will put in links to our website and let you get the information that you need there. We still want to give access to all of our members to great teaching articles and tips. Rather than publishing them in the Bulletin, they will be featured on our Facebook page and available to you by logging in to your KATM account.

As always, we would love to hear from our members about other what is going on for you! Or, we would love to feature articles and lesson plans from our members if you have an awesome idea you'd like to share! You can email me at jennywilcox@katm.org with any suggestions.

Sincerely,

Jenny Wilcox

Look for information about upcoming events in your KATM zone!

What's your favorite teaching tip? What burning questions do you have?

Post them to our Facebook page!

The KATM Bulletin needs submissions from K-12 teachers highlighting the mathematical practices listed above. Submissions could be any of the following:

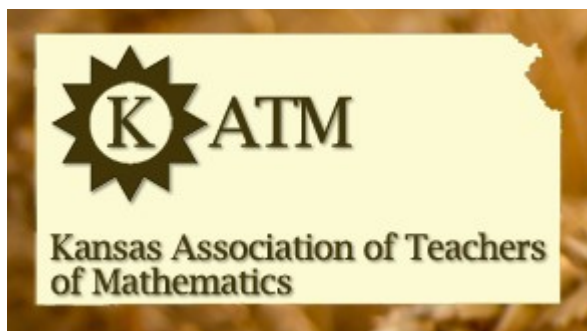
- ◇ Lesson plans
- ◇ Classroom management tips
- ◇ Books reviews
- ◇ Classroom games
- ◇ Reviews of recently adopted resources
- ◇ Good problems for classroom use
- ◇

Email your submissions to our Bulletin editor: jennywilcox@katm.org



[Click here](#) if you're interested in joining in conversation with other Kansas math teachers in our Facebook groups. Invite your friends too!

[Click here](#) to get information about applying for the Capitol Federal or Cecile Beougher scholarship. It is awarded to a KATM member each year! Check out the note and pictures from our recipient from last year on the next page!



[Click here](#) to join KATM! Or let a colleague or friend know about KATM.

Berryton Elementary would like to thank KATM for the Cecile Beougher Scholarship. Our school has a passion for mathematics and building conceptual understanding. We also have a passion for hands-on, engaging learning through experience and play. We strongly believe in the Eight Mathematical Practices and want to provide opportunities for students to create. The Cecile Beougher Scholarship has helped us go above our curriculum with resources to increase creativity and innovation.

We have a team of multiple teachers ranging from preK to 6th grade and across to our media instructor who want to lead the school in providing STEM opportunities and resources for our nearly 500 students. The KATM grant was a huge boost to our



resource room, and the process for application was less cumbersome than most other grants. Thank you so much KATM for supporting teachers in an efficient, enabling way!

With our grant monies we were able to purchase four Cubelets robotic kits, a multitude of Lego blocks, Lego Education mechanic kits, Klutz Lego building guides, Magna Tiles, and carts for easy transportation. These carts have sparked more creativity from our students and our teachers. It's allowed for "free creation" and more classroom projects to support interdisciplinary learning.



Take a look at what the teachers at Berryton Elementary School did with the Capitol Federal scholarship that they received from KATM!



Have you considered [applying for one of the KATM scholarships?](#) What could you do for your students???

Questions That Occasion Student Thinking

Will M Dunn - @willmdunn

What makes a good question? In one sense, the answer is as broad as “whatever the context demands”. Given such breadth, and the notion that questions may be the primary unit of discourse that frame the student’s academic experience in the math classroom, the demand is on educators to have the deftness and skillset to recognize and construct such a “demanded” question.

One very useful tool to explore the type of questions you pose is Norman Webb’s “Depth of Knowledge” (DOK) scale. Briefly, the scale can be summarized as DOK 1: Recall/Reproduce, DOK 2: Skill/Concept, DOK 3: Strategic Thinking, DOK 4: Extended Thinking. An example question might illuminate the way these depths could look in practice. Consider the topic of vertex, standard, and factored forms of quadratic equations, and how they might be used at each level.

DOK 1 Prompt: *List the formulas to find the vertex of a parabola whose equation is written in both vertex form and standard form.*

DOK 2 Prompt: *Find the vertex of the parabola defined by the equation $y=12x+62-2$ and for the parabola defined by the equation $y=-2x^2 + 8x + 2$.*

DOK 3 Prompt: *Consider the three equations below. They all describe the same parabola in different ways. Find the missing pieces of each equation.*

$$\begin{array}{ccc}
 \text{Standard Form} & \text{Vertex Form} & \text{Factored Form} \\
 y = 2x^2 - \text{●} - \text{●} & y = \text{●}(x - 1)^2 \text{●} & y = \text{●}(x + 1)(x \text{●})
 \end{array}$$

DOK 4 Prompt: *Here, project- and problem-based learning might be ideal frameworks for this depth of question. These tend to take longer time frames and stretch into solving actual issues from the community or cross into content beyond just math. Consider this a great opportunity to collaborate with a colleague from a different department.*

As is often noted, these do not necessarily need to be done sequentially for a concept and their order doesn’t imply increasing rigor. I typically begin most days with a DOK 3 question displayed. I spend a few minutes sharing necessary information or having students recall previous work that will be useful, and then the students are largely on their own to reason and work in small groups. Through proper selecting and sequencing, student work serves as the material for summarization. If needed, DOK 1 and 2 questions can follow.

If you’d like to start exploring the tools and resources available to bring more DOK 3 level questions into your classroom, consider people like: Robert Kaplinsky, Judy Larsen, Peter Liljedahl, Dan Meyer, and Kyle Pearce.

KLFA Update

The Kansas Learning First Alliance met on Thursday, October 17, 2020 at KNEA.

Learning Forward Kansas Executive Director, Dayna Richardson, briefed attendees on the [numerous online resources available](#) to celebrate Public Schools Week, Feb. 24-28, 2020. The resources include sample social media content and suggested legislative resolutions honoring public schools. KASB Advocacy and Outreach Specialist, Leah Fliter, asked the group to consider creating a substantial and visible Public Schools Week event in the Kansas Statehouse in 2020 and attendees agreed.

The Dean of Kansas State University's College of Education, Dr. Debbie Mercer, presented on retaining Kansas teachers in the profession. "Recruitment alone will not work," Mercer said; state and school district leaders must also provide support to keep teachers in the profession and in Kansas. Mercer said research shows that quality preparation through teacher preparation coursework and professional feedback lead to higher teacher retention rates. She noted teacher turnover is greater in smaller, rural, economically disadvantaged school districts. That "revolving door" in turn leads to teacher shortages, harms student achievement and costs time and money to rectify, Mercer said. [Mercer's presentation](#) is also available on the KLFA website.

Dr. Roger Caswell, NBCT, updated attendees on the numerous resources and supports available to educators through the [Jones Institute for Educational Excellence](#) at Emporia State University. His presentation is available [on the KLFA website](#).

Dr. Ribble emphasized the importance of educating students and society about digital citizenship and how to use technology responsibly and effectively. "It's not just handing a student a device," Ribble said. "It's what they do with it." [Ribble's presentation](#) is posted on the KLFA website. MACE became a KLFA member at the October 17 meeting.

Dr. Reed reviewed for attendees the work of the state's Blue Ribbon Task Force on Bullying, which will make policy or legislative recommendations to the State Board of Education in January. The task force met across the state throughout the spring and summer to gather public testimony and receive the latest research and information about the impact of bullying on students and their education. The review may be found [on the KLFA website](#).

Ms. Stallbaumer's [remarks](#) focused on the legal and emotional impacts of unwise social media posts; sexting, bullying and cyber bullying; free speech rights of students and staff; and school districts' rights and responsibilities around student and staff speech in a digital age.

Mark Thompson (Kansas State Department of Education), then updated KLFA members on the state's efforts to fight vaping, particularly in schools. The State Board of Education established a task force that makes monthly recommendations to the board. Resources include a Vape-Free Schools toolkit available [here](#). Thompson said the State Board is considering requiring schools to have "vape-free" policies in order to achieve accreditation. He said the Board is generally reluctant to impose mandates on local school districts but considers vaping a public health crisis.

Terry Forsyth (KNEA) and **Leah Fliter (KASB)** led a discussion on the importance of voting and civic engagement in 2019 and 2020. School board and city commission elections are in 2019 and the 2020 elections will feature numerous state and federal races.

KASB, KNEA, USA-Kansas and the Kansas High School Activities Association are working with Kansas Secretary of State Scott Schwab to promote the "Students Serve" initiative that encourages high school students to work at polling places. ["Students Serve"](#) details are available on the KLFA website.