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MATHCOUNTS®

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mathcounts executive roundtable launches *i see future me*



More MATHCOUNTS participants will have the opportunity to hear from a diverse array of inspiring STEM professionals at state and chapter competitions this year, thanks to *I See Future Me*, a **MATHCOUNTS Executive Roundtable** initiative.

Founded in Spring 2018, the Roundtable brings together leaders and advocates from the STEM community to brainstorm creative solutions to STEM education challenges and help MATHCOUNTS innovate. This year, members are focusing on making STEM more diverse and inclusive, beginning with the MATHCOUNTS Competition Series.

I See Future Me (ISFMe) connects volunteers who plan state and chapter competitions with STEM professionals from MATHCOUNTS partner organizations so students from all backgrounds can engage with STEM role models in their local communities. Having launched this month, ISFMe will focus on state competitions this year and continue expanding in the future.

Research has shown role models and mentors play an important role in how students perceive their own abilities, and contribute to a sense of belonging. "Our coaches already serve as incredible mentors," explained MATHCOUNTS executive director Kristen Chandler. "Now with *I See Future Me*, more of our students can meet role models they identify with who are making a difference in the world through STEM."

More information about this initiative is online at www.mathcounts.org/isfme. Organizations and STEM professionals who would like to partner with MATHCOUNTS on ISFMe or speak at a local competition, can sign up online.



competition series early bird deadline: 11.2.18

Early Bird Registration for the 2018-2019 **MATHCOUNTS Competition Series**, which launched in August, is open through Friday, November 2, 2018. During this time, schools can register for just \$30 per student (\$15 per student for Title I schools) at www.mathcounts.org/compreg.

This year's *School Handbook* is available online, and features 250 problems mapped by difficulty and math concept. Registered coaches also receive step-by-step solutions for each handbook problem, and in November gain access to the digital School Competition.

MATHCOUNTS provides numerous **free resources** to prepare students for the Competition Series and help educators enrich their math instruction, all posted on www.mathcounts.org/coaches:

- *Problem of the Week*: multi-step problem each week
- *MATHCOUNTS Minis*: monthly video series featuring past problems
- *MATHCOUNTS Trainer*: app and online game with past problems
- *Past Competitions*: last year's School, Chapter and State Competitions
- *Interactive MATHCOUNTS Platform*: collaborative resource with past problems

Raytheon

**2019 MATHCOUNTS
National Competition Sponsor**

Following chapter and state competitions in February and March, the top four Mathletes from each state will advance to the **2019 Raytheon MATHCOUNTS National Competition**, which will take place May 12–13 in Orlando, FL.



math video challenge [★]playbook released

MATHCOUNTS released the 2018-2019 **Math Video Challenge** *Playbook* in September, a resource that features all 250 handbook problems organized by math topic. Open to both schools and non-school groups, educators can register for free at videochallenge.mathcounts.org/register.



In addition to the playbook, MATHCOUNTS provides resources for teams to promote their videos in the contest. Teams that submit videos by March 1, 2019 qualify for the **Promo Pack** of free materials to garner votes:

- *Entry into the Promo Pack Prize Drawing* for a \$25 Amazon gift card for each team member (10 winning teams selected)
- *Free poster*, with space to add the team's video link
- *20 Flyers*, with space to add the team's video link
- *Social media images, templates and tips*

General public voting will take place February 14 – March 14, with the top 100 videos advancing to the contest's judging rounds. Four finalist teams

will win an all-expenses-paid trip to present their videos at the **2019 Math Video Challenge Finals** in Orlando, FL. The 224 Mathletes at the National Competition will vote to determine the winner.

three new games added to club in a binder

Following last year's reboot of **the National Math Club** materials, MATHCOUNTS added three games to the Club in a Binder this year:

- *Marble Challenge*: strategy game based on a 2016 handbook problem reviewing logic and number theory
- *Math Golf*: strategy game that teaches probability concepts
- *Three Tic Tac Toes*: spin on the classic game, reviewing combinatorics, symmetry and logic

Every math club game works for groups of any size, can be differentiated for students of multiple math levels and can be played with everyday materials. In addition, club leaders receive access to the free **MATHCOUNTS Club App**, a companion to games that require dice, cards and marbles.

Educators at schools and non-school groups can register for free at www.mathcounts.org/clubreg. Clubs that meet at least five times or complete a collaborative math project can win great prizes, including an all-expenses-paid trip to the 2019 Raytheon MATHCOUNTS National Competition.

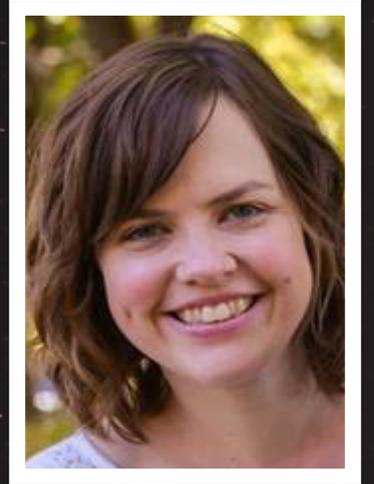


spotlight on mathcounts board member & alumna kim lacker of cna

We spoke to Kim Lacker, an actuary at CNA Insurance, about her journey from Mathlete to STEM professional and MATHCOUNTS board member.

MATHCOUNTS: Tell us about your job at CNA. What is your favorite part about being an actuary?

Kim Lacker: First, a little bit about insurance. CNA provides insurance coverage to other businesses, and we call them our policyholders or our customers. If one of our policyholders suffers a loss—such as, if a pipe bursts within a business' walls and causes water damage—the policyholders file a claim to CNA to ask for funds that could be used to repair their business.



As an actuary at CNA, my role is to predict how many claims will occur down the road within two of CNA's business units, Healthcare and Surety, and determine how much these claims will cost. My responsibility is to evaluate all of the risks associated within these areas, and assign an appropriate dollar amount. For example, if two businesses need Property insurance—one in Florida and one in Arizona—the Florida business may be more likely to file a claim for a damaged roof because Florida sustains more storms.

In addition to pricing insurance, I also provide strategic development and execution that supports our pricing models. My favorite part of being an actuary is collaborating with my team and business partners, and using my quantitative and analytical skills to inform real business decisions.



"I pursued a lot of different majors but always found myself coming back to math. (as an actuary at cna) I continue to be challenged with new opportunities and new things to learn."



MC: What made you decide to pursue this as a career? Were there challenges you overcame along the way—big or small?

KL: As a student, I was always drawn to math and other subjects that leveraged my quantitative skills. While working toward an undergraduate degree at a liberal arts university, I pursued a lot of different majors but always found myself coming back to math. Knowing I wanted to be in the business world, I acted upon the suggestion of a peer and got an internship as an actuary at CNA, and I have been here ever since! I continue to be challenged with new opportunities and new things to learn. As an actuary, you also take a series of exams to become fully credentialed, which was a large time commitment after graduation. CNA provided a supportive environment to allow me and my peers to study and become successful at obtaining my credentials.

MC: Tell us about your middle school days in MATHCOUNTS and how you came to love math.

KL: Math has always been an academic focus throughout my entire family. Growing up, I admired my older brother, who is very talented in math and successfully competed in MATHCOUNTS. I remember participating in the math club and feeling a great sense of accomplishment when solving problems or obtaining a high score on an exam. For me, math achievements helped build my confidence and became a big focus of my future academic and career paths.

MC: We're so glad to have another alumna on the board! What drew you to get involved with MATHCOUNTS again?

KL: I am passionate about education, especially as it relates to STEM fields and encouraging more diversity in STEM. I've been familiar with MATHCOUNTS since when I was a child, and on top of that, my employer CNA is a founding sponsor. After discussing with colleagues who have served on the board of MATHCOUNTS, I knew that this opportunity would be a great way to be involved with the organization and give back.

MC: What advice do you have for our Mathletes and alumni who are just starting to think about the careers they may want?

KL: In general, I'd encourage people to learn as much as possible about a variety of career options. Take advantage of career days and job fairs as an opportunity to learn; and talk with friends, relatives and teachers. When I was in school, it seemed as if math careers were limited to academia, primarily research and teaching. While these are great careers, the options are truly much broader. For me, exploring different careers in applied mathematics aligned more closely with my strengths and interests.

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Purploxida is 16% acid and yellowgen is 6% acid. Catalina adds some purploxida to 30mL of yellowgen. What is the volume of the resulting solution if the mixture is 12% acid?

