# Math Kangaroo Bulletin

The bulletin of Math Kangaroo USA, NFP

Volume XII, Issue 1 - Fall 2021

www.mathkangaroo.org





Joanna Matthiesen, Chief Executive Officer

I am delighted to close Math Kangaroo 2021 season with a simple message: we are making a difference in students' lives. We completed the competition with 31,004 participants in 49 states and one US territory. The competition took place in a hybrid mode with some students participating in the classroom and others online. We awarded thousands of students on the national and state levels. It is my joy to see students practice mathematics and work hard to reach their highest potentials. I am grateful for all the teachers and parents who went above and beyond to prepare their children for this competition and later celebrated their success.

Math Kangaroo will celebrate its Silver Jubilee next year and with this comes time to reflect on how far we have come as an organization and our plans for the future.

Math Kangaroo started in 1998 with just 32 participants and grew to the numbers we have today. The great success of Math Kangaroo can be contributed to all the parents and teachers that saw the value of bringing Math Kangaroo to their schools or afterschool institutions. The timeline of events and how Math Kangaroo grew in the USA and in the world can be viewed <a href="here">here</a>.

During the last year our team worked hard to derive new ideas to serve our mission with an even greater intensity.

- We updated our website to make it more student and parent friendly, with a wellorganized layout and with more transparent and accessible information.
   It launched September 1.
- We just finished the last stages of a new Math Kangaroo Questions and Solutions book for grades 5 & 6. I anticipate this book will be available November 1.
- We wrote, developed, and have been revising a new Math Kangaroo Curriculum for grades 1, 2, 3, and 4 that will help students learn techniques and strategies for solving word and logic problems. I hope to launch these Math Kangaroo classes sometime in late October 2021; it will be a pilot project, but with our great team, I believe in its success.
- We formed a Math Kangaroo Alumni Club where students can find place at Math Kangaroo after graduation. Through this club, they can maintain their involvement in a variety of different ways: by creating questions, writing solutions, making videos, designing graphics, or bringing fresh growth ideas to our organization.
- Paired with our alumni we started a discussion on creating Math Kangaroo app for our students to allow us to reach a wider audience via smartphones or other electronic platforms. Our search for an app developer will continue this coming year.

I am humbled and honored to serve as a President of this charitable organization. It has been my first year as a president and I couldn't be more pleased with the team I work with and the students I am thrilled to serve. I am grateful to the first president Maria Omelanczuk, who entrusted me to lead the next era in our organization and its goal of growth and greater outreach while promoting our Mission. She played a substantial role in preparing me for this position. I look forward to work hard to fulfill our mission of helping students love math nationwide in this 25<sup>th</sup> year of Math Kangaroo in the United States. Indeed, we are making a difference in students' lives!

Joanna Matthiesen

President and CEO for Math Kangaroo



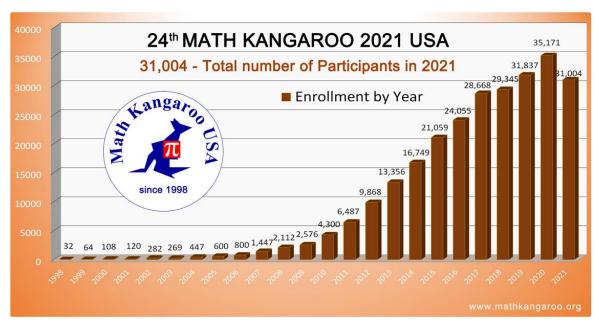
Kasia Nalaskowska
Chief Information Officer

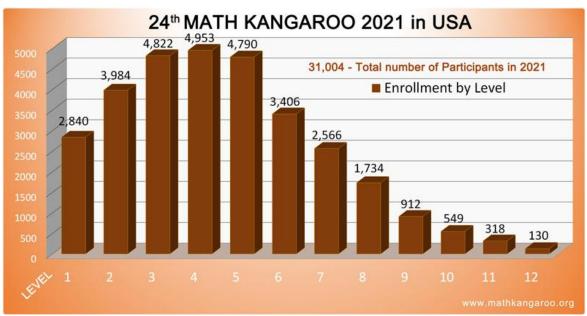
The year 2021 continued to be challenging for many students and their families – remote or hybrid education and disruption of social interactions due to global pandemic were just some of the issues we all had to confront. We were able to be in touch with many teachers and parents by phone or email to help navigate obstacles or solve problems when needed. We would like to thank you all for your patience, understanding, and continuing support of Math Kangaroo.

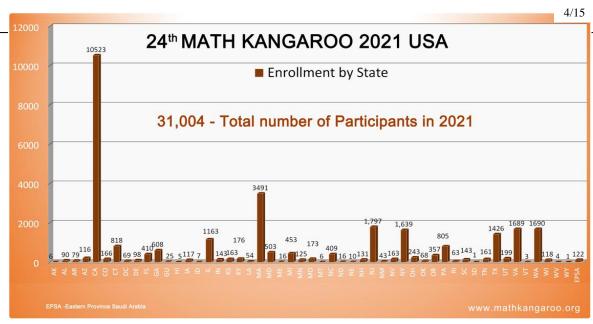
This year was also challenging to the team of volunteers responsible for organizing and running the Math Kangaroo Competition. Managers from our 277 regional centers across the United States bared the brunt of these unique circumstances but raised to the challenge and ensured that the 24th annual Math Kangaroo Competition was once again a success. We would like to extend our sincere gratitude and appreciation for all the hard work and dedication to all our managers and volunteers. **We could not have succeeded without you!** 

This fall we start registration for the 25th annual Math Kangaroo Competition. We invite all schools to participate either in-person or online. We would love to see more teachers involved in promoting mathematics through our competition and we would like to see the number of our regional centers and managers grow every year.

If you would like to be involved and start a new Math Kangaroo center, please visit our center registration information <a href="https://example.com/here">here</a>. We hope you continue to help us and invite more passionate people to be a part of Math Kangaroo and that the coming year will bring another successful Math Kangaroo competition for all our students, teachers, and volunteers.







More metrics...



Izabela Szpiech, Chief Financial Officer

The 2021 Math Kangaroo year has been another unusual year for all of us but especially for some students who had to switch to remote learning. While this was a very challenging transition, many still found energy, willingness, and time to compete in our annual Olympiad. Congratulations to all participants! We value your participation greatly and recognize your effort as a heroic one. All MK participants were awarded MK T-shirts and small gifts, but most importantly, we hope that all contestants benefited from our program and will find a way to apply the learned knowledge along with their MK experience in future learning and professional endeavors.

MK 2021 winners were awarded very special prizes. We recognized participants with twenty best scores at each 12 levels nationally and three top scores in each participating state. This year there were 8074 National winners and 3080 State-level winners. Please check our web page for more detailed information on Results and Awards.

While it is now common that the biggest participation in the competition takes places at the lower grade levels, each year we have been observing increased number at the high school grade levels. This has resulted in more awards which were distributed to senior-level students who demonstrated consistency in participating in MK competition with excellent or great results in the most recent years. Chinmay Krishna and Rahul Thomas are recipients of the \$1,000 Math Kangaroo college grant. Chinmay and Rahul took MK test for several years and won 1st places in recent years. The \$500 special recognition went to Alan Abraham, Parth Shastri, Andrei Mandelshtam, Samuel Lerner, Alex Hu, Tyler Weigand. Sophie Wu and Gregory Pylypovych received the \$300 award. Gabriel Wu, Timothy Palamarchuk and Alice Wu received the \$200, Kishore Rajesh \$100 and a prize of \$50 was given to David Mengel. Below, please find photos of our senior laureates and their commentaries about their experience in the MK competition.

As a Charity Organization with 501 (c) 3 status, we can run our program thanks to the registration fees (which is the main source of our revenue) but also thanks to sales of MK study materials in form of PDFs, Videos, Books or Practice Tests. I would like to encourage you to explore our online store: <u>Catalog</u>. Don't forget to take advantage of discounts (or free access to some items) designated for the already enrolled students.

With our hearts full of appreciation, we would like to thank our private supporters who donated money to our organization. This year alone we received over \$38,000 in donations. The level of contributions varied from \$1 to \$2000. The largest donation came from Mrs. Yelena Bobrovska, one of our recurrent Promoters. Please consider being a supporter or even a sponsor of some of our Math Kangaroo awards of activities. More information here.

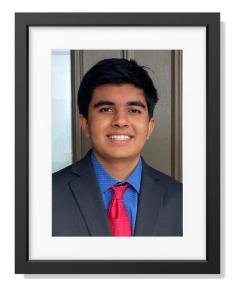
You may also contribute to our financial growth when you shop on <a href="https://www.AmazonSmile.com">www.AmazonSmile.com</a>. AmazonSmile Foundation will donate 0.5% of the purchase price of eligible products to the charitable organization like Math Kangaroo without additional charge for to the customer. Here is how to use Amazon Smile: 1. Sign in (with your existing Amazon account) to smile.amazon.com on your desktop or mobile browser. 2. Go to Your Account from the navigation at the top of any page, then select Math Kangaroo in USA, NFP to support. When making payments for your purchases using PayPal, select Math Kangaroo in USA as your favorite charity: <a href="Donate">Donate</a>

Finally, you may ask for Employee Match Program in your workplace. This way your donation may be doubled by your company. Here is the link to check if your company is involved in such program: <a href="Employee Matching Program"><u>Employee Matching Program</u></a>

Every penny is appreciated and helps us to support children from low-income families as well as to continue developing and improving our program. Thank you!



#### **Reflections about Math Kangaroo Competition**



Chinmay Krishna, Overland Park, KS

Math Kangaroo was one of the first math competitions I participated in.

The unique problems in Math Kangaroo tests enriched my passion and curiosity for math. I continued to participate in Math Kangaroo and many other competitions over my school years to fulfill my thirst for math with simple, yet thought-provoking problems that provide a new lens to view math with. I have had many unforgettable experiences through my Math Kangaroo journey. I met numerous other like-minded peers and made lasting connections.

One experience I cherish is the Math Kangaroo camp in Zakopane, Poland. I enjoyed meeting students from around the world who share my passion for math while going on excursions and hiking through the Tatra mountains with amazing views.

I plan to study Electrical and Computer Engineering this fall at the University of Texas at Austin. My strong background in math has prepared me for a future where I seek to create innovative solutions to solve problems in a rapidly changing world.



Raul Thomas, Centennial, CO

Thank you so much for the college grant! I am incredibly grateful for this generous award, and so appreciative of being able to participate in this fantastic contest throughout the years.

When I first took a Math Kangaroo test in elementary school, I was stumped by many of its challenging puzzles. Yet, I was also delighted while attempting to brainstorm solutions to these creative and unique problems, even when my efforts weren't successful.

Those problems that I didn't solve were so enjoyable that I had to take them home and try again. It was this experience that first gave me a glimpse of what mathematics and problem solving are really about: the journey is perhaps more valuable than the destination. Beguiled by these fun and interesting problems, I decided to keep coming back each year. Even as the tests changed in difficulty, the problem quality remained impressively high. The problems were always original and unique, which truly helped me develop as a mathematician and a critical thinker.

I'm planning to attend Stanford University this fall, likely majoring in math with a minor in computer science. Participating in Math Kangaroo has definitely influenced me towards this path, and I'm certain I wouldn't be where I am today without all this competition gave me.

Again, thank you all so much for hosting Math Kangaroo. I'd also like to thank the Colorado chapter coordinator Jyotshna Gunturu, who first introduced me to Math Kangaroo and encouraged me to participate every year.



Parth Shastri, Princeton, NJ

I was introduced to Math Kangaroo in second grade and have not missed any ever since. The unique combination of mathematics coupled with logical reasoning ability, unlike other math competitions, makes this an interesting competition for budding math lovers. Fun and educational gifts given to participants and winners are encouraging to young minds. Changing to an online format since last year was a very apt and smooth process when in person exams were not possible due to the pandemic.

Practicing Math Kangaroo problem sets helped me with problem solving skills and time management as well as with critical thinking necessary for areas beyond pure math like programming. Since middle school, I started participating in math tournaments such as MathCounts, the AMCs, the AIME, and university-conducted tournaments like HMMT and PUMaC. However, I continued participating in Math

Kangaroo every year as I loved solving intriguing and tricky puzzle type questions in the contest. I was elated when I was invited to the math camp in Zakopane in Poland, although it coincided with another mathematics camp and I couldn't attend.

Starting this fall, I will be attending Carnegie Mellon University majoring in computer science and possibly a double major in math.



Samuel Lerner, Brookline, MA

Thank you so much for the award. It has been a pleasure competing in Math Kangaroo all these years.

I have been a participant in the Math Kangaroo olympiad from the 2nd grade. Math Kangaroo introduced me to the world of math competitions and was a major reason why I find math so exciting. My interest in solving Math Kangaroo problems led me to the Mathcounts and AMC competitions in middle school and many more in high school.

Throughout all these years I have enjoyed solving Math Kangaroo's interesting and unique problems and have looked forward to the competition every March. I especially like that Math Kangaroo questions often focus on spatial visualization and logic. They are the most challenging as traditional strategies do not work and it's necessary to find an original solution. Creative and fast thinking is essential here.

But most of all, Math Kangaroo has given me many opportunities outside of the competition. As a team member of Math Kangaroo USA, I traveled to Zakopane, Poland for math camp. It allowed me to not only improve my math skills but also to meet new people from around the world. Math Kangaroo has been a wonderful experience over my competition career and I would like to thank them for all of the amazing times I have had.

I will be attending the University of Massachusetts-Amherst this fall and will be majoring in Computer Science.



Gabriel Wu, Rockville, MD

I have competed in Math Kangaroo since 3rd grade. I come back each year because I love the challenge posed by the MK contest. Each question requires a combination of creative problem solving and mathematical knowledge -- both of which improve with practice. The out-of-the-box thinking encouraged by MK gives math an exciting, innovative feeling that is harder to find in the classroom environment.

Next year I will study math and computer science at Harvard, where I hope to continue pondering hard problems.



Timothy Palamarchuk, Great Falls, VA

Thank you very much for the special recognition reward, I did not expect to receive anything this big, so this was a very pleasant surprise!

I have participated in Math Kangaroo every year since the second grade and I can't imagine not taking it. What kept me interested in the competition were the problems; in other competitions, the problems are very dull and almost impossible to solve if you don't know a very specific trick to solving them. In contrast, the Math Kangaroo has problems that are not only applicable

to the real world but even if you don't know the exact way to solve it, there are many other ways to approach them. For example, I remember tearing my scratch paper to make cubes, because I couldn't visualize the cube myself.

I will be attending Virginia Tech starting this fall with a major in Electrical Engineering. I have attached a picture of myself. Again, thank you so much for this award!



Kishore Rajesh, Scottsdale, AZ

I started participating in Math Kangaroo in 7th grade and have participated every year since. What first drew me to the contest was the logic-type questions, which were less like other math contest questions I did, and more like fun brain teasers. The competition gave me something to look forward to at the end of the school year. Math Kangaroo enabled me to think logically, a skill that helped me in other math contests.

I will be attending Harvey Mudd College in the fall pursuing Computer Science and Mathematics.

## Memories from the Wolfram High School Summer Camp



Arul Kolla, Arkadia, CA

I greatly appreciate the Math Kangaroo for giving me the opportunity to attend the Wolfram High School Camp!

I loved working with and learning from my mentors and peers and being able to spend two weeks immersed in a project was a magnificent experience. I was able to explore my passions through my project on the game Nim With a Pass, and I am looking forward to continuing my journey with Wolfram in the future as I have been selected for the Wolfram Emerging Leaders Program. I strongly recommend others to take part in this

camp and immerse themselves in their passions with like-minded friends. Without the Math Kangaroo, I wouldn't have been able to attend this camp, and so I am extremely grateful for this opportunity!

## Memories from the Id Tech Summer Camp



Maya Viswanathan, Champaign, IL

I want to thank Math Kangaroo for giving me the opportunity to participate in an Id Tech program.

I took five private lessons about machine learning which I really enjoyed! I learned a lot about machine learning concepts such as supervised and unsupervised learning and classification. I played a fun game about classification of animals that helped solidify the concept. I also got to work on a machine learning program in Python that tried to predict if someone would survive the Titanic sinking which was really cool! I would definitely recommend this camp to other students!

Below is a list of all students awarded with camps participation:

Student Name	Level	Award	State	City
Arul Kolla	10	Wolfram	CA	Arkadia
Megan Davi	10	Wolfram	NV	Reno

Student Name	Level	Award	State	City
Aaron Hu	9	IdTech	FL	Tallahassee
Alexander Bai	9	IdTech	CA	Porter Ranch
Angelina Berg	9	IdTech	PA	Hershey
Catherine Li	9	IdTech	CA	San Jose
Derek Xu	9	IdTech	NY	Dobbs Ferry

Student Name	Level	Award	State	City
Jamin Xie	9	IdTech	CA	San Jose
Maya Viswanathan	9	IdTech	IL	Champaign
Michael Lu	9	IdTech	NY	Setauket
Sebastian Prasanna	9	IdTech	MA	Cambridge
Vishal Nandakumar	9	IdTech	VA	Chantilly
Zaee Shah	9	IdTech	CA	Foster City
Alan Kappler	10	IdTech	OR	Hillsboro
Alan Vladimiroff	10	IdTech	VA	McLean
Arianna Cao	10	IdTech	CA	San Jose
Daniel McCrorey	10	IdTech	WA	Issaquah
Lisa Fung	10	IdTech	CA	Saratoga
Nicole Shen	10	IdTech	CA	San Jose
Nikhil Mudumbi	10	IdTech	NJ	Mahwah
Nilay Mishra	10	IdTech	CA	Saratoga
Noah Shi	10	IdTech	WA	Sammamish
Richard Zhu	10	IdTech	CA	North Hollywood
Riya Gupta	10	IdTech	CA	Los Altos
Saanvi Thummalapally	10	IdTech	CA	San Jose
Sai Konkimalla	10	IdTech	AZ	Oro Valley
Suyash Pandit	10	IdTech	OR	Portland
Stuti Agarwal	10	IdTech	CA	Saratoga

#### **Math Kangaroo 2022 Poster Contest**

In May the winner of the annual Math Kangaroo USA Poster Contest was announced. There were 27 posters submitted to the contest. Together there were 22 students and 5 adults participating in this great event. The endeavor of choosing the best poster wasn't easy as there were a lot of great entries in this pool.

A panel of judges narrowed down the entries, evaluated them and made their final decision. The award for **the Best Poster** went to **Violet Hughes**, an elementary school student from **Newton**, **Connecticut**.



Violet did a terrific job of capturing the essence of the Math Kangaroo mission, as well as creating a truly powerful poster and message underlining the 25th anniversary of our competition! Violet received a \$200.00 Amazon gift card and The Best Poster Certificate.



This is what she says about herself: "I love to do math and Math Kangaroo problems, make inventions, read, write & illustrate stories, play the violin and the piano, and play outside. My poster depicts math as an adventure. This is both because Math Kangaroo has been on a 25-year journey of spreading the joy of math to students of all ages AND because learning math and solving problems IS a fun adventure!"

Math Kangaroo will use the winning design from the contest to promote the 25<sup>th</sup> Annual Math Kangaroo Competition. We wanted to say thank you to all students and adults that showed their engagement in drawing, painting, coloring by hand (like many of the youngest participants did) as well as electronically.

Congratulations to Violet for her winning entry and a special thank you to the following participants: Aarush Suresh, Aditi Ranjan, Amog Sidhi, Anatolia Bakalars, Archit Kumar, Bhavin Dang, Cara Ferris, Churnika Gudla, Claire Lu, Diya Iyer, Ellanya Siva, Erin Han, Hayden Hughes, Joshita Punuganti, Kathy Liu, Lydia Choi, Oju Ramani, Pam Sidhi, Rhea Hittin, Riddiksrisatya Neetipalli, Sai Lalitha Bomma, Shruthi Beedu, Siddaarth Ramasubramanian, Sukriti Viswanath, Venkata Siva, Viji Subramanian, and Yujen Shu. Please see their creative work <a href="https://example.com/here/be/here/ba/4">here</a>

## Register your child today! Donate any amount any time! Enroll your school by December 1. No cost for schools. Parents register, and they pay online. Join us on Facebook



#### We would like to thank our sponsors.







Please contact us at <a href="mailto:info@mathkangaroo.org">info@mathkangaroo.org</a> if you or your organization are interested in supporting our endeavor.

#### Our address:

MATH KANGAROO in USA, NFP 50820 SUMMIT HILL CT, GRANGER, IN 46530

#### Payments only:

MATH KANGAROO in USA, NFP P.O. BOX 56353 CHICAGO, IL 60656

www.mathkangaroo.org • info@mathkangaroo.org

Earlier bulletins



Magdalena Teodorowicz, Chief Design Officer, Editor of the Bulletin