

Mathworks

LEARNING CURVES

*Solving Interesting Problems in Mathematics
Education and Research*

"By traveling in small steps, you can still reach great and amazing things." - Amy, 9th grader

2019 ANNUAL REPORT

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From the Director

Dear Friends,

What an exciting year it has been! Mathworks celebrated its 30 year anniversary this summer, with over 100 alumni returning to join 73 Honors Summer Math Camp (HSMC) students and 19 counselors, our largest group ever. In this issue you will find more details about all of our camps, participants, and alumni.

Mathworks is delighted to welcome Cody Patterson and Will Boney to Texas State as new tenure track faculty. Both Cody and Will attended Mathworks as students, counselors, and teachers for over 7 years. Tim Chase, a current lecturer in the department, taught in the JSMCR and assisted in supporting counselors in the HSMC. Cody, Will, and Tim provide the foundation for future leadership in Mathworks, while working closely with Terry and Max to carry on the Mathworks traditions. We also congratulate Terry on his upcoming retirement from teaching full-time in the department, although Terry will still be teaching in the summer math camps of course.

We are happy to congratulate Hiroko Warshauer on being promoted to the rank of Associate Professor and being granted tenure. Hiroko is the Mathworks Research Coordinator, and has already served on the Ph.D. committees for 10 Ph.D. students. Max and Hiroko will both be on leave in 2020 to work on writing up activities based on *Math Reader* and *Math Explorer* magazines that were published for many years by Mathworks. They will develop electronic games and activities to supplement these activities. Max will also be making connections with colleagues we have met at the Primary Math World Contest to develop an international component of Mathworks bringing together students and teachers from throughout the world.

Finally, Mathworks is happy to announce a new partnership with the Ron Brown Foundation to identify and recruit top African-American students. This will ensure that Mathworks continues to be one of the most diverse programs in the country. A key to enabling Mathworks to reach out to students who have never had these type of summer opportunities is the ability to provide scholarships so that all students can attend regardless of their financial background. These scholarships have been supported by generous benefactors, including alumni, friends, and most importantly by the Mathworks Steering Committee. They have helped establish Mathworks as one of the best endowed programs in the country, and with our ever-growing community of friends and supporters the future has never looked better. We invite you to read about what we are doing, and hopefully join our community as well.

Thank you all for your support, and I hope to see you again this summer if not before.

Max

MATHWORKS

2019 Annual Report, Learning Curves

Solving Interesting Problems in Mathematics
Education and Research

MISSION

Mathworks is a center for innovation in mathematics education at Texas State University. Our mission is to research and develop model programs and self-sustaining learning communities that engage K-12 students from all backgrounds in doing mathematics at a high level.

LEADERSHIP COUNCIL

Max Warshauer - Director
Terry McCabe - Associate Director
Hiroko Warshauer - Research Coordinator
William Boney
Tim Chase
Eugene Curtin
Susan Morey
Cody Patterson
Jian Shen

ADMINISTRATIVE SUPPORT

Patty Amende
Judith Claypool
Kaelie Garcia

MATHWORKS STEERING COMMITTEE

Sarah & Ernest Butler
Howard Falkenberg
Jeff Kodosky
Bob Rutishauser
Mike Starbird

TEXAS STATE UNIVERSITY

Denise Trauth, President
Gene Bourgeois, Provost
Christine Hailey, Dean, College
of Science & Engineering
Susan Morey, Chair,
Department of Mathematics

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A photograph of a winding asphalt road through a dense, lush green forest. The road curves from the foreground towards the background, marked with a white line on the left and a double yellow line on the right. The surrounding trees and foliage are vibrant green, creating a serene and natural setting.

**Nothing great was
ever achieved without
enthusiasm.**

- Ralph Waldo Emerson

Three Pillars with a Research Foundation

Mathworks offers three core programs supported and informed by research. Beginning with summer math camps for elementary to high school students, we develop problem-solvers who are unafraid of new challenges. Students learn to think deeply and work collaboratively with others. This concept extends into middle school curriculum that challenges students with fun, engaging problems, and professional development for in-service and pre-service teachers that prepares teachers to make these problems come alive in the classroom. The element that ties everything together is research about new and innovative ways of teaching, and research opportunities for undergraduate and graduate students interested in mathematics education.

CURRICULUM DEVELOPMENT



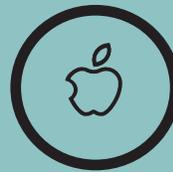
Learning math is not a spectator sport. The activities that fill the text and accompanying workbooks encourage students to develop the major concepts through exploration and investigation rather than being given rules to follow.

SUMMER MATH CAMPS



Beginning with summer math camps for elementary to high school students, we develop problem-solvers who are unafraid of new challenges. Students learn to think deeply and work collaboratively with others.

PROFESSIONAL DEVELOPMENT

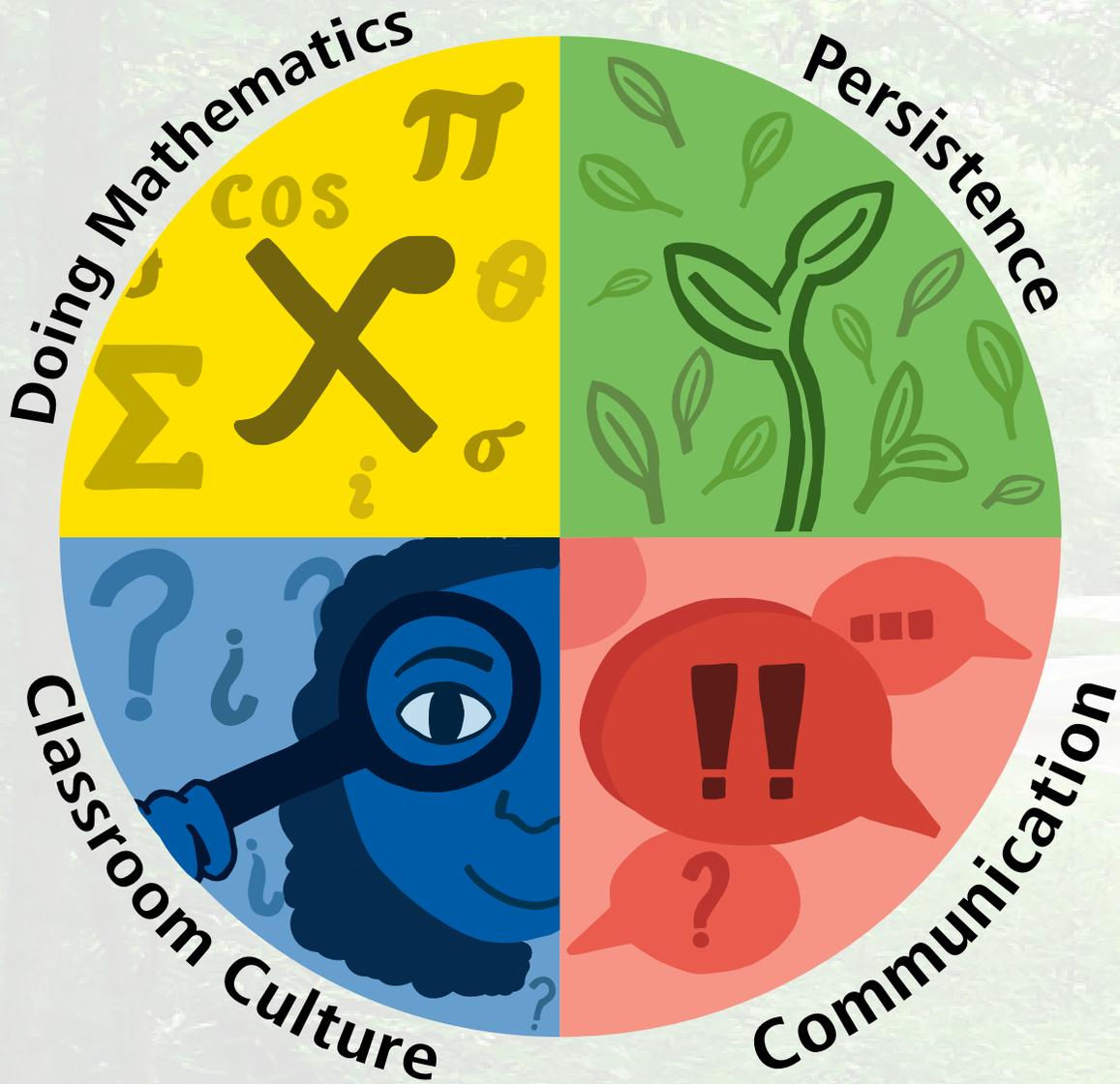


School teachers are prepared with the mathematical background and training needed to give all students the opportunity to build a strong foundation to succeed in mathematics.

RESEARCH



The element that ties everything together is research about new and innovative ways of teaching. Research opportunities for undergraduate and graduate students interested in mathematics education prepares future teachers and leaders in STEM.



Guiding Principles Are Woven Into Every Program

Research has shown that students' learning success depends on an integrated approach that supports students in each of the domains above. The Mathworks Guiding Principles are intentionally woven into every aspect of the Mathworks Programs.

Doing Mathematics

Doing mathematics is about making sense of and thinking deeply about fundamental concepts.

Students should:

- “Think deeply of simple things,” (Arnold Ross)
- Build on prior knowledge by making connections that follow the flow of ideas from what they previously understood to new ideas being studied
- Promote a deep understanding for why things work using visual models
- Focus on the math problems, not the answers
- Reflect on what they have learned to make sense of the mathematics

Persistence

Persistence is critical to success in problem-solving and doing mathematics.

Students need to:

- Develop a “growth mindset;” and understand that ability can be developed with hard work
- Be willing to take risks and realize that mistakes present opportunities for learning
- Take ownership of their own learning
- Develop confidence to tackle new situations without giving up easily

Classroom Culture

Teachers need to establish a classroom culture that develops students’ curiosity and imagination.

The keys to establishing this culture are to:

- Make math interesting, fun and relevant with challenging, well-sequenced problems
- Support students’ productive struggle by responding to student questions with appropriate guidance
- Allow sufficient time for learning ideas deeply
- Use techniques to engage all students
- Balance individual and group work; both can be appropriate depending on the task

Communication

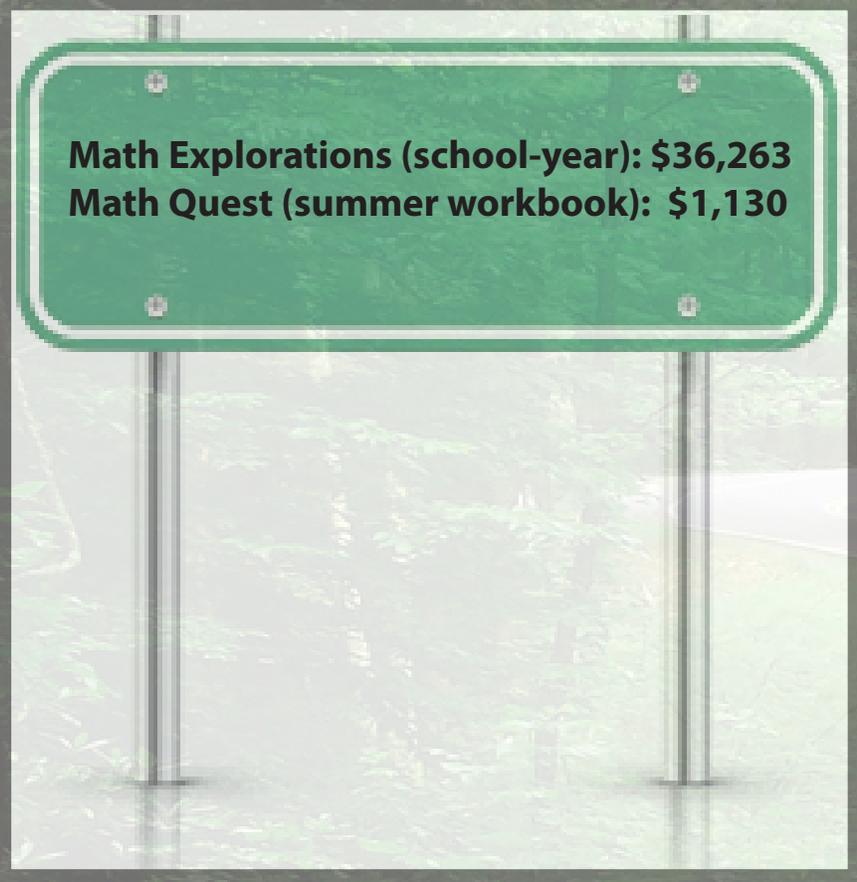
Communication between students and teachers is critical for learning.

To facilitate better communication, teachers should:

- Ask probing questions to develop student understanding, and encourage students to question why things work
- Expect students to present their work and defend their reasoning using precise mathematical language
- Take student attempts seriously, and examine both right and wrong approaches
- Expect students to articulate and explain the key math concepts

Curriculum

Curriculum Products Mathworks publishes products designed for summer enrichment and school-year curriculum. Both products weave algebra and algebraic ideas into the curriculum.

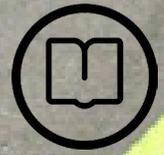


Math Explorations (school-year): \$36,263
Math Quest (summer workbook): \$1,130

*"Students are learning to enjoy it. Students say things like, "Oh, that's why it works like that."
-7th Grade Teacher*

*"Teachers love it because the problems are presented in a way that we can build on. They really like that number theory is peppered into the product."
-7th Grade Teacher*

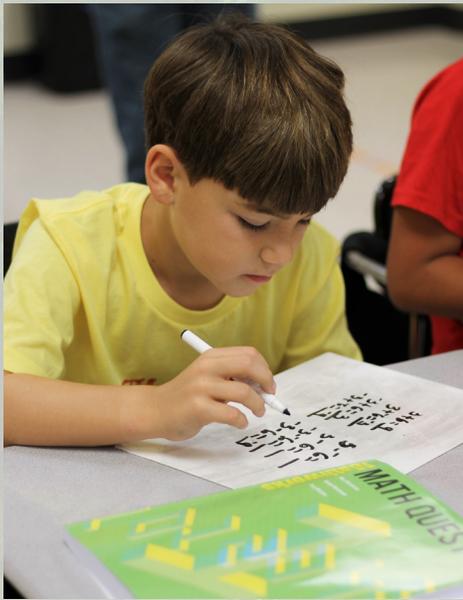
*"The activities are great! We like how the curriculum builds from simple to very in-depth concepts. Our new teacher, a former high school teacher, really loves it too because she can see where it is going."
-7th Grade Teacher*



Math Quest Curriculum

(Summer Math Camp/After School Program Enrichment)

The Math Quest products introduce students to beginning concepts in algebra through play-acting and drama. More advanced topics include geometry, number theory and discrete math. Students enjoy exploring problems together and share in the excitement of mathematical exploration and discovery.



"I enjoy teaching the curriculum and the philosophy (Guiding Principles) used in these books. My students got to learn algebraic concepts (variables, functions, operations on a number line) and most of this was new to them. They definitely improved their understanding every day."

- 2019 Level 2 Teacher



Math Explorations Curriculum

(School-Year)

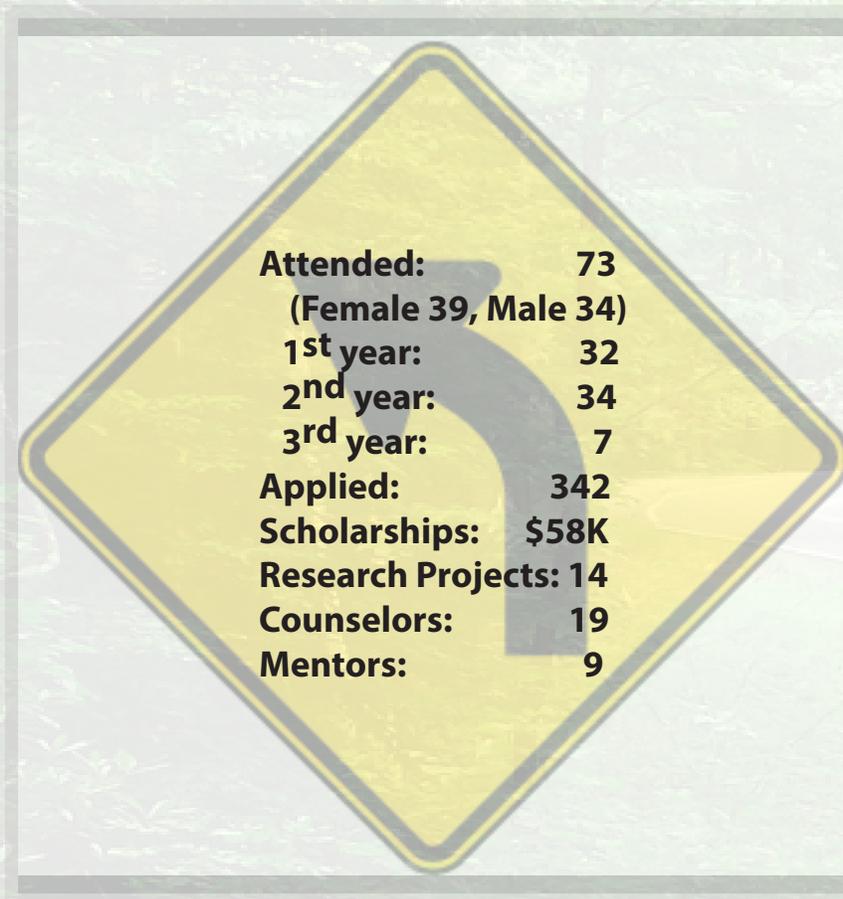
Math Explorations is a state adopted series of three textbooks for middle school math that is aligned to the Texas Essential Knowledge and Skills (TEKS) for 6th grade, 7th grade, 8th grade, and Algebra I. The textbooks use research and testing from our summer math camps that have been held for the past 30 years.

With this curriculum, young students use algebraic ideas that they learn throughout their middle school years. *Math Explorations* weaves algebra and algebraic ideas together with hands-on, inquiry-based explorations for students working independently and in groups. The curriculum enables students to build a solid foundation for success in mathematics while preparing them for the STAAR and Texas Algebra 1 End of Course exams.



Camps

HSMC is a six-week, multi-year residential program for high school students. The camp immerses students in doing mathematics in a collaborative problem-solving environment that builds a foundation for success.



"I've been going to math camps for a long time, but I applied to HSMC and eventually chose to go because I had heard that the camp fostered great relationships between the students and that we studied a lot of interesting math. I'm glad I came!!"

- 2019 2nd Year Student



Honors Summer Math Camp (HSMC)

A Parent's Perspective

"He found his happy place! He rarely called me during his 6 weeks at camp because he was so engrossed in the "community" that the Texas State Honors Math Camp (HSMC) provided. When I picked him up from camp on the last day, I saw over 10 kids embracing him with tearful goodbyes. It was a very moving sight for this mama!

I honestly had reservations at first about sending my boy to 6 weeks of a "math" camp for the summer. In my mind, summers are supposed to be for exploring, hiking, swimming, playing basketball, 4th of July parties, pulling all nighters with friends, etc. I thought this little dude is going to be sitting at a desk ALL summer long doing nothing but math-this can't be a healthy or fun way to spend the summer. Well, once again I WAS WRONG! He had an opportunity to experience exactly ALL of those things in the summer! They went hiking at Enchanted Rock, visited the Witte museum in San Antonio, played in basketball tournaments, learned frisbee golf (or some kinda game involving a frisbee), stayed up all night eating Ramen noodles they bought at HEB and basically being a teenager enjoying their summer. This aspect of camp, solidified the importance of exercise in your daily routine.

Lastly is the curriculum, he was challenged in thinking outside the box and it expanded his interest in theoretical mathematics and computer science. He had a chance to explore more deeply math concepts that he'd been researching on YouTube and many concepts he had never heard of before. "

- Parent 2019, Student's Fifth Year at Mathworks



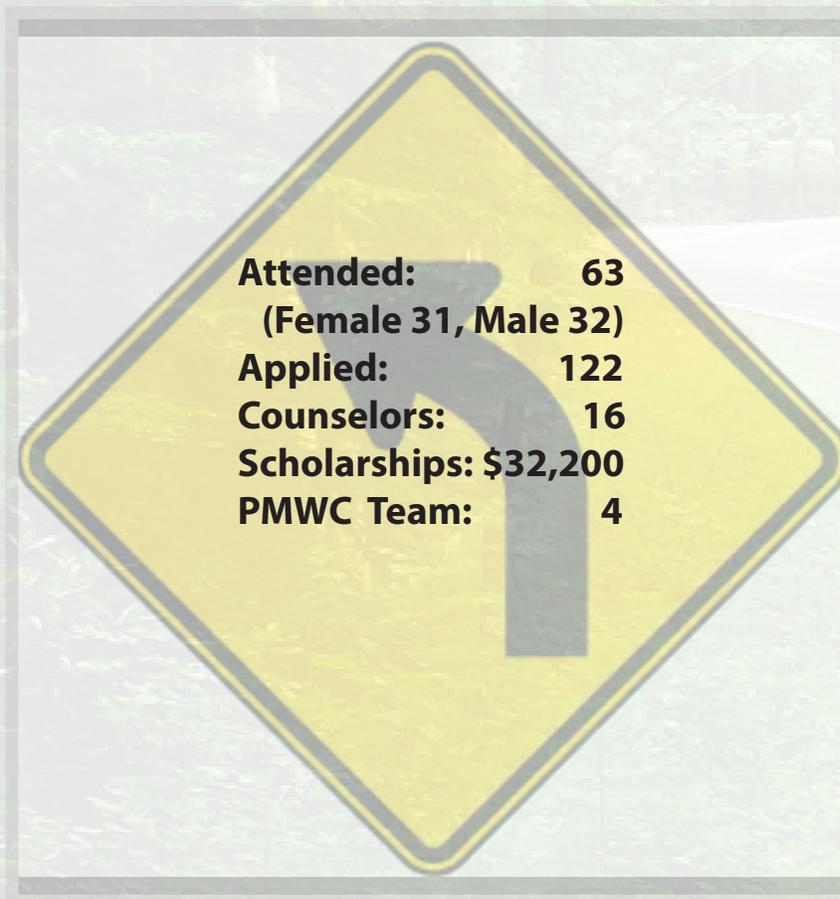
"I came back as a counselor to be a positive role model for current campers. My counselor did a good job of teaching the value of continual learning, and I wanted to emulate him."

- 2019 Counselor



Camps

JSMCR is a two-week, residential summer program for middle school students who are excited about doing mathematics. The goal of the program is to develop young students into creative, problem-solvers and critical thinkers.



"The math camp was a good experience for me. I was introduced to challenging concepts and theorems that made me think. Solving some problems required creative solutions, instead of taking it "head-on," it showed me a different way of thinking about a problem - a more efficient way to solve problems."

-7th Grade Student, McAllen, TX



Junior Summer Math Camp - Residential (JSMCR)

Impact on Students

"Coming into this camp, I was unsure of my mathematical abilities and not very interested in math. Now, leaving I feel as though I can truly work through problems and achieve a solution that I can explain. In addition to this, I now feel involved and intrigued by the study of mathematics. Overall, my experience with math camp has been an enjoyable, memorable, and defining moment in my relationship with math."

- 9th Grade Student, Chevy Chase, Maryland

"I've made many new friends. I have developed my skills in mathematics. Mr. Tim taught many different ways to solve one's questions. I used to give up on problems really easily too, and as Max said, "that is a fixed mind set"; I have stopped giving up. If something is too hard thought, I still ask for help, but I try it more before and sometimes, I even solve it."

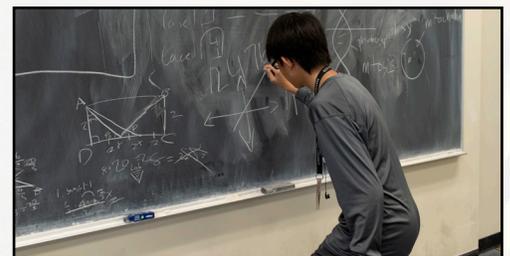
- 8th Grade Student, Austin, Texas

"I think this camp has opened by eyes to what a lot of other people my age can do which motivated me to value studying and learning more than I did. I've been living in the same city my whole life. This summer I'm moving to California so I think that this camp has given me a glimpse on what it's like to be away from home in a whole different environment."

- 8th Grade Student, College Station, Texas

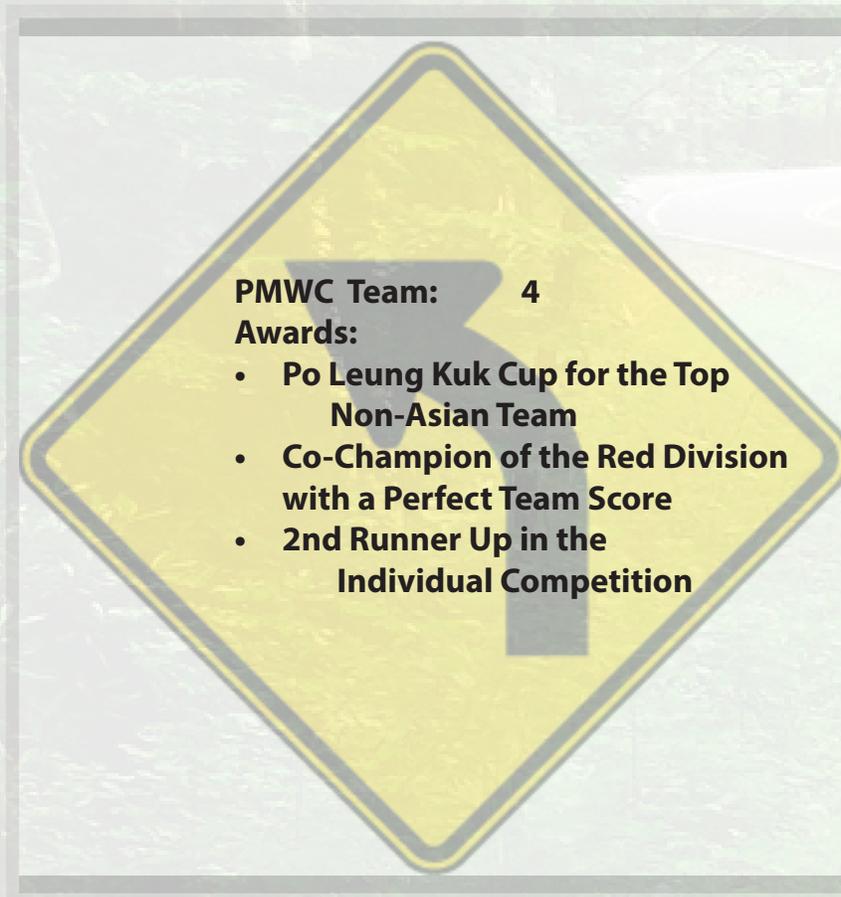
"This camp is inspiring. This is my second year at Mathworks and was most definitely a constant challenge for me. Coming from a background where mathematics is not heavily emphasized, coming into Mathworks has been a bit of a "culture" shock. Surrounded by students who are years ahead of me in math... can make you feel a little more than defeated. However, by the end of each day, I feel inspired to work as hard as them, to be as passionate as them, and to be as eager as them to learn the next day. Even when I was working at a slower pace, I soon realized that if I returned to the problem, I could be like the students in my group."

- 2019 JSMCR Student



Camps

PMWC is an annual worldwide mathematics contest for middle school students that takes place in Hong Kong, China. Every year, Mathworks administers the Mathworks Math Contest in order to select the members of the PMWC team. Members of the team earn automatic acceptance to the Residential Junior Summer Math Camp, and an all-expense paid trip to Hong Kong to compete in the Primary Math World Contest.



"I feel that my counselor, prepared me excellently for the PMWC in July. Together and individually, it helped us reach new heights in both mathematics, communication, and watermelon – breaker. I felt that I learned better ways to solve certain problems."
- PMWC Team Member



Primary Mathematics World Contest (PMWC)

Team Wins PMWC - Team Contest!

Team members Anne Christiono, Tina Li, Christopher Qiu, and Eric Peng brought home many honors including the Po Leung Kuk Cup for the top non-Asian team; Co-Champion of the Red Division with a **perfect** team score; and 2nd runner up in the Individual Competition, only one point shy of being co-champions.

Thirty-six teams from around the world included teams from China, Bulgaria, Thailand, Australia, and Indonesia. The Mathworks team was accompanied by leader Hiroko Warshauer and deputy leader Keri Jaworski, a teacher from Kealing Middle School in Austin.

As of March 2019, the Mathworks team has won first place in the world 3 times in the PMWC. Fantastic work!

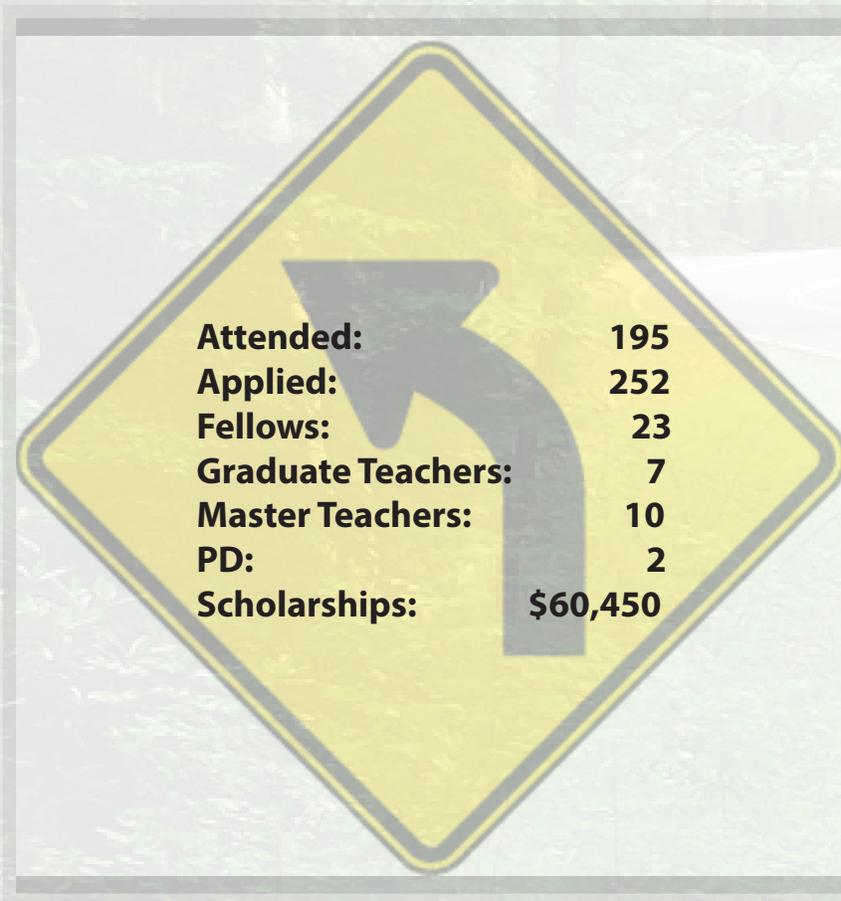


2019 Team (left to right): Keri Jaworski, Deputy Team Leader, Eric Peng, Christopher Qiu, Anne Christiono, Tina Li, Hiroko Warshauer, Team Leader



Camps

JSMCH is a two-week, half-day summer program for students in grades 4 - 8. With five levels to choose from, students enjoy exploring problems together and share in the excitement of mathematical exploration and discovery.



"This helped me because I hated math but now I want to do it."

- 4th Grade Student, Level 1

"At first, I did not really like math. But when I came to math camp it felt like a light bulb just lit up as I started to work."

- 4th Grade, Student, Level 1

"This camp has made me learn to love and understand math a lot more than ever before!"

- 5th Grade Student, Level 2



Junior Summer Math Camp Half-Day (JSMCH)

Changing the way you think about math!

Even students that proclaim, "I'm not good at math and don't like it!" change their mind when given more opportunities to explore math. The more one plays with math and math games, the more one understands and develops problem-solving skills.

Elementary age students learn complex and advanced mathematics. Studies show that early exposure to math develops high-level problem-solving skills that are important predictors of success in school and life. (NCTM & NAEYC, 2010; Clements & Sarama, 2011).

"I liked being able to solve hard problems that I wouldn't even think of doing before I came to this camp."

- 2019 JSMC Student



This summer the program was evaluated using two instruments:
(1) The PEAR Institute: Partnership in Education and Resilience (collaboration between Harvard Graduate School of Education and Harvard Medical School).

- 87% of students reported a positive change in STEM engagement during a retrospective self-evaluation, the national average is 86%.
- 76% of students reported increased interest in a math job in the future.
- 73% of students reported positive change in math curiosity.

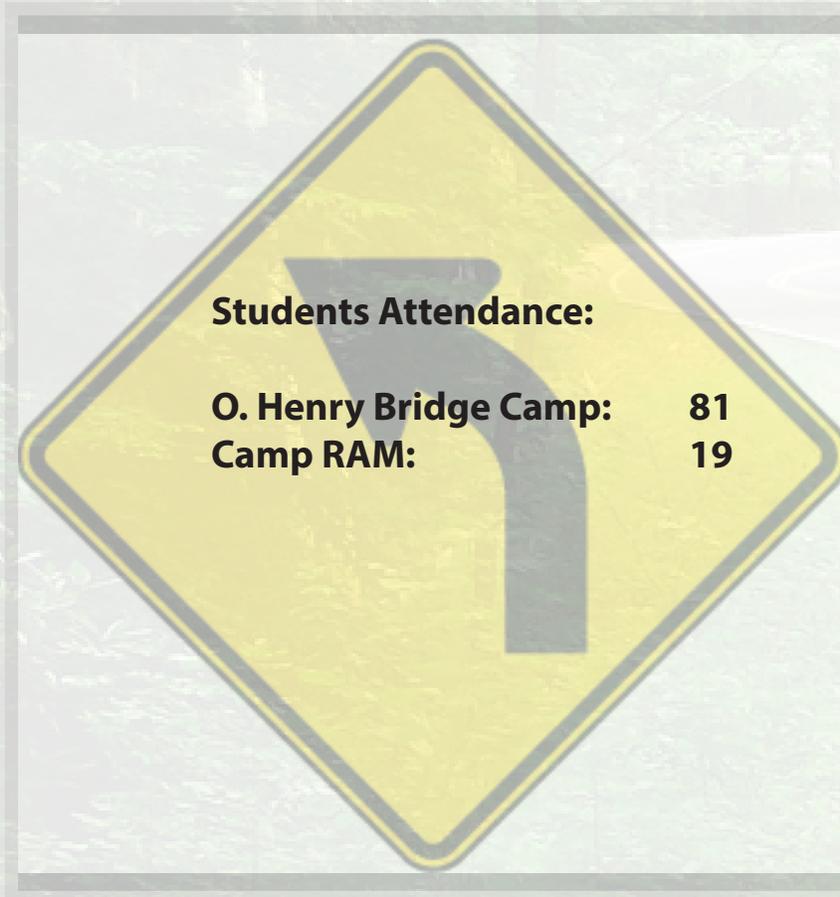
(2) Learn All the Time - an intermediary organization to guide research-based approach for Out of school time (OST) service providers, sent observers to evaluate camp.

- Classroom observers used a 12 point rubric scale to evaluate key indicators of program quality. Mathworks received a perfect score of 4 on 10 of the 12 rubric evaluation points.



Camps

Camp-in-A-Box Satellite camps provide opportunities for students to engage in summer learning in their community. The Camp-in-A-Box provides everything you need to hold your own camp.



"Parents report to me that their kids are coming home every day from camp stating that they are having so much fun doing math. And the Advanced math teachers report that they can pick out during the academic year which kids have attended the camp and which have not based on their level of concept knowledge."

- O. Henry Middle School Teacher

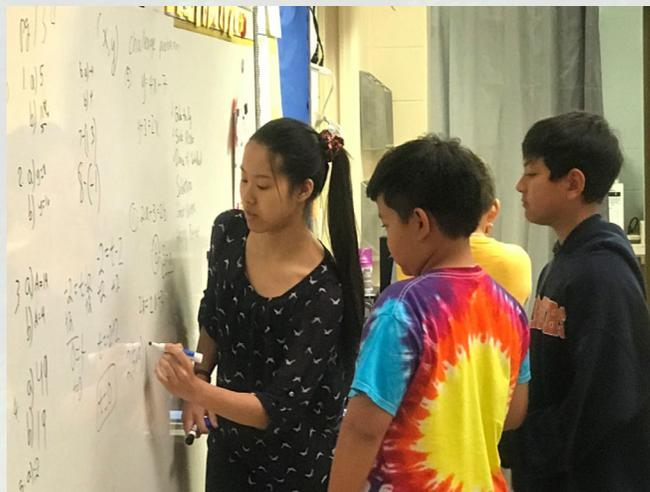


Camp-in-A-Box

Readiness Across Mathematics - Camp RAM

Camp RAM was a free, week-long math camp geared towards incoming sixth graders between June 10th and June 13th, 2019 at T.H. Rogers Middle School in Houston. The program was created, organized, managed, and staffed by Annie and Shirley Zhu, who are HSMC alumni. Nineteen rising 6th grade students attended Camp RAM.

Preparations for Camp RAM began in April with the formulation of lesson plans and familiarization with a curriculum based on the Mathworks Camp-in-A-Box, *Math Quest Level 1* and *Math Quest Level 2*.



"Ultimately, our goal is to guide the students to self-discovery," noted Annie. "So, it was incredibly rewarding to witness the students' joy when they solved questions correctly and understood the material deeply."

- Annie Zhou and Shirley Zhou, Camp RAM Directors

"My daughter reminded of the workshop this morning and she can't wait!"

- Testimony from Parent of Camp RAM Student

"My favorite part was when we were doing the multiplications facts fast, eating gummy bears, and building the structure."

- Testimony from Camp RAM Student

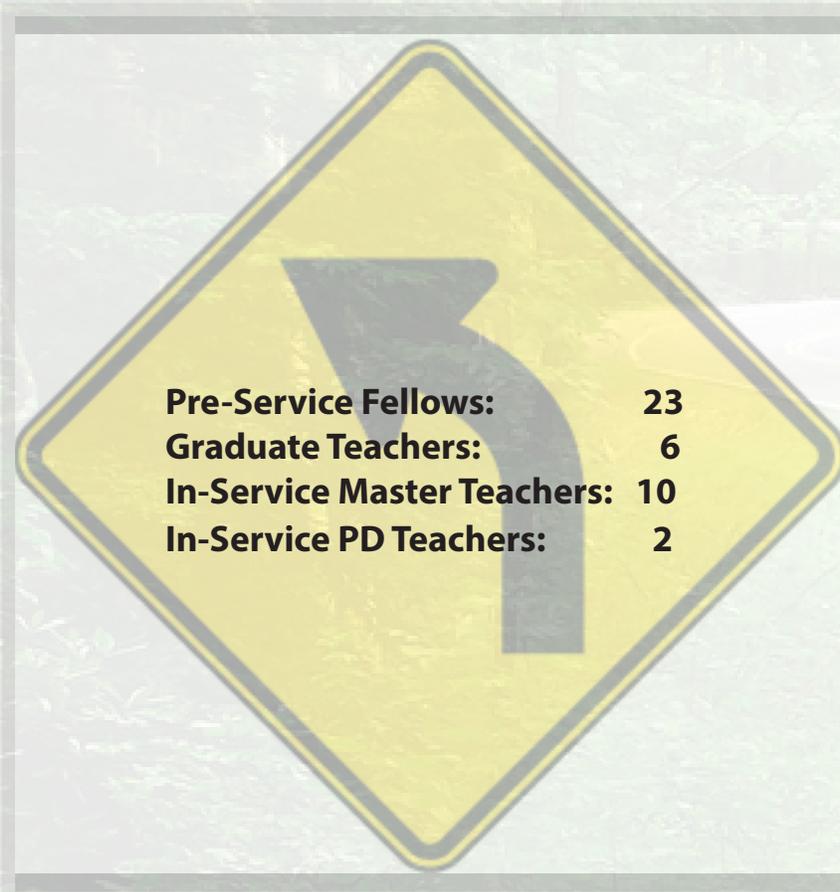
O. Henry (AISD) Bridge Camp

For the third year in a row, O. Henry Middle School in Austin conducted a week-long summer math camp using the Mathworks *Math Quest* curriculum to bring their rising middle school students together for a rich learning experience before the academic year gets started. The students met other new students who would soon be their classmates while learning pre- algebra, algebra, and geometry using fun games and activities. The camp was held from August 5th- 8th, with 81 students attending classes taught by five math teachers from O. Henry Middle School.

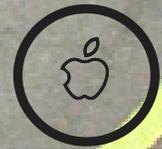


Professional Development

PD equips elementary and middle school teachers with the mathematical background and leadership training needed to give all students the opportunity to build a strong foundation in mathematics.



"The Mathworks guiding principles have become a key part in forming the principles I will hold as a future teacher. The way I used to think of teaching is completely different than how I think of teaching now." - 2019 Mathworks Fellow



In-Service Teachers Professional Development(PD)

This two-week Professional Development (PD) program is conducted each summer in San Marcos in early June, coinciding with the Half-Day Junior Summer Math Camp (JSMCH) . In the morning, participants are part of the half-day JSMCH. In the afternoon, teachers participate in a class covering research-based mathematics content and pedagogy. A total of 45 hours of Professional Continuing Education hours is awarded, approved by the State Board for Educator Certification (SBEC).



The National Science Foundation's Science and Engineering Indicators 2014 report finds, "Teacher quality is one of the most important factors influencing student learning. Students' achievement in mathematics and science depends in part on their access to high-quality instruction in those subjects."

<https://online.mc.edu/articles/education/math-science-elementary-students.aspx>



"The class moved at a much slower (more problem-solving) pace. This was hard to do coming out of a typical classroom pace but refreshing just to spend time chewing on the numbers in a number line. I observed during class that students naturally want to be very detailed and get the right answer."

- 2019 In-Service PD Teacher

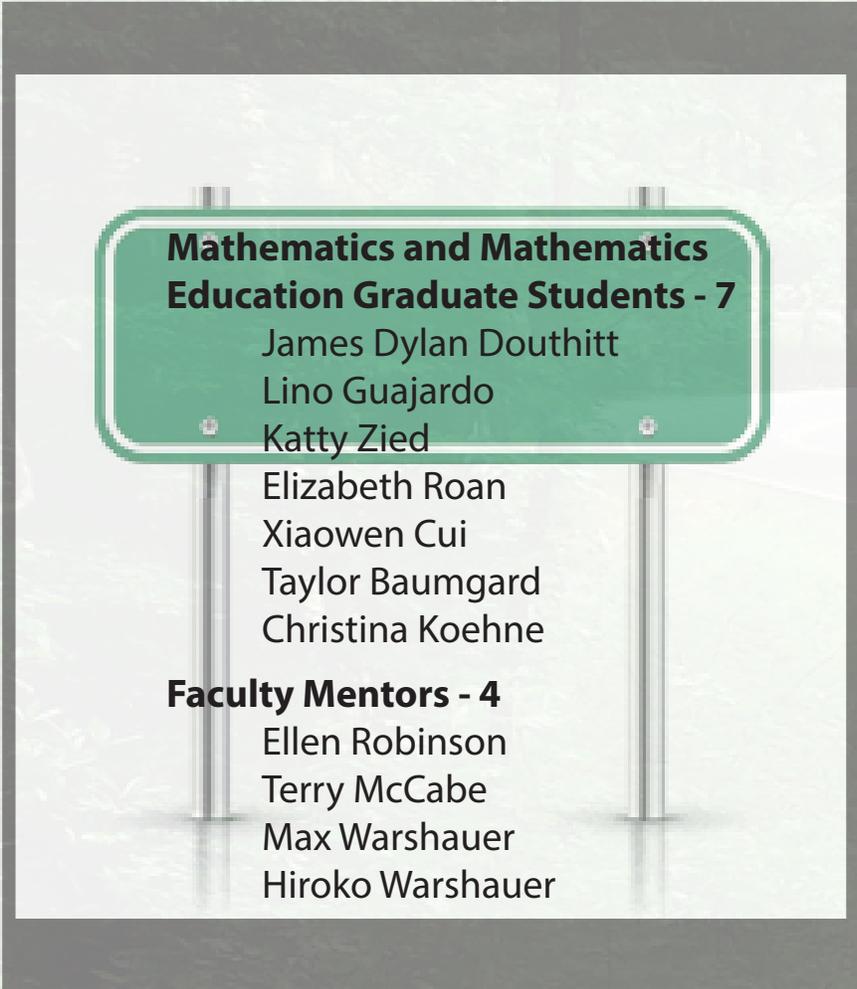


Pre-service Teachers (PD)

Undergraduate Fellows participate as assistants in the JSMC classrooms under the supervision of their Master Teacher. In the afternoon, the Fellows discuss and reflect on the morning class and prepare for the next day's class. A daily seminar introduces the Mathworks Guiding Principles, covering mathematics content and pedagogy.



Research & Publications



**Mathematics and Mathematics
Education Graduate Students - 7**

James Dylan Douthitt

Lino Guajardo

Katty Zied

Elizabeth Roan

Xiaowen Cui

Taylor Baumgard

Christina Koehne

Faculty Mentors - 4

Ellen Robinson

Terry McCabe

Max Warshauer

Hiroko Warshauer

"Our graduate students continued working on research articles that link theory to practice, where we study the types of struggle that students experience when learning math, and how these struggles are an important element of learning!"

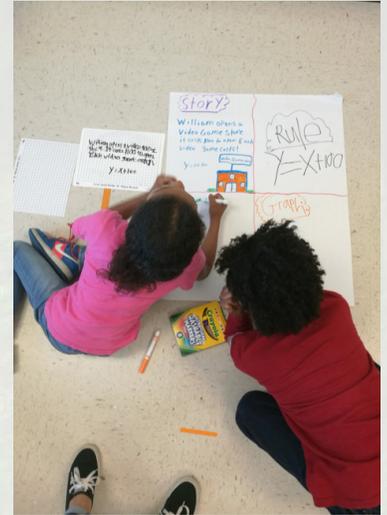
- Max Warshauer, Director



Graduate Students & Research Opportunities

Teaching and Conducting Research

2019 was a busy year for our Texas State graduate students at JSMC including James Douthitt, Lino Guajardo, Katty Zied, Elizabeth Roan, Xiaowen Cui, Taylor Baumgard, and Christina Koehne. These seven “junior faculty” for Mathworks taught Level 4 or 5 JSMCH classes. They also designed and conducted research during the month of June. As graduate students in mathematics or mathematics education, their work with the Mathworks summer camps provided opportunities to gain teaching experience. Concurrently, they engaged in research that examined how young students learn mathematics. Our focus was on Combinatorics. The research team designed a lesson that examined students’ combinatorial thinking at the middle school level. The team piloted the lesson with all the JSMCH teachers and Fellows, received feedback, revised the lesson as needed, and implemented the lesson in the Level 4 and 5 classes. With data collected, we plan to analyze and write up our results.



Research Outcomes

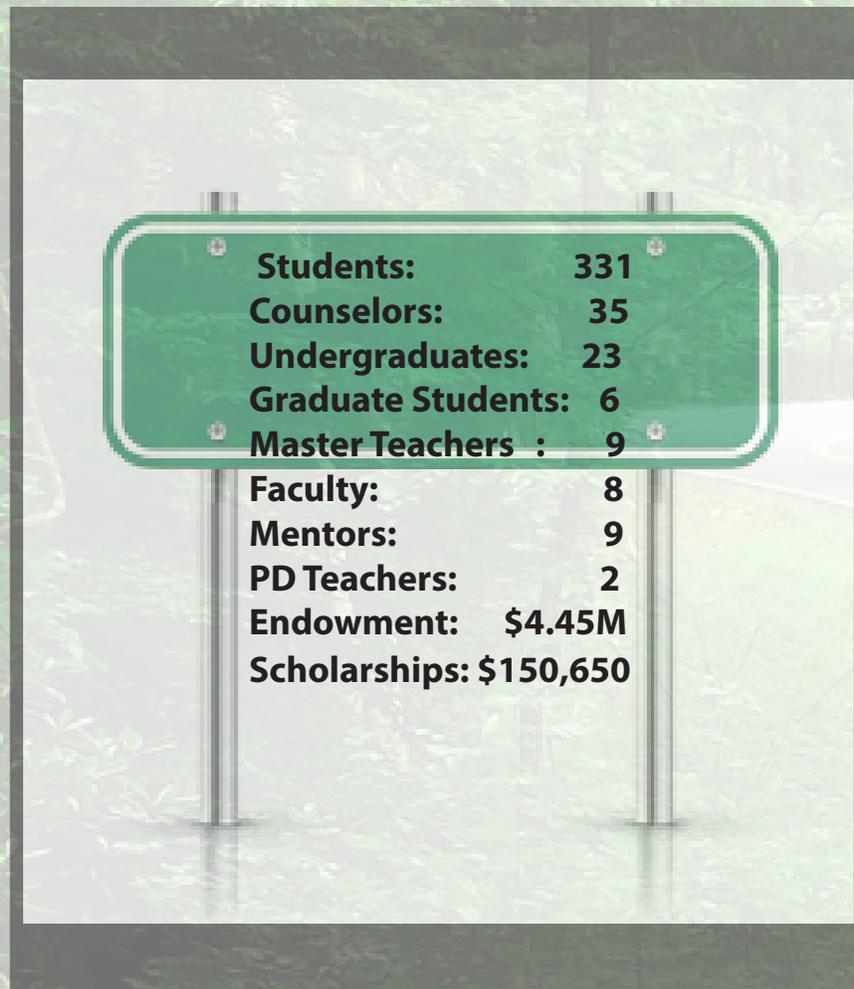
The Mathworks math camps continue to serve as research sites for faculty and graduate students.

- Three past or current dissertation studies used the JSMC or HSMC settings to study teachers, undergraduates, and students.
- Mathworks was invited to present at the 14th International Congress in Mathematics Education (ICME-14) and join in the Topics Study Group (TSG) on Mathematics education for gifted students. Co-authored with graduate student, Michael Hicks, Max, and Hiroko plan to present the HSMC study in Shanghai, China in July 2020.
- Our new faculty member, Cody Patterson, and Hiroko Warshauer will present at the annual conference of the Association of Mathematics Teacher Educators (AMTE) in February 2020. This presentation is part of a larger research study with additional collaborators that examines the work teachers and prospective teachers engage in by reflection and analysis of math camp teaching and teaching in general. Their presentation is entitled: *Many Perspectives, One Vision: Learning to Respond to Student Thinking by Reflecting on Shared Experiences*



Financial Report

Miles to Remember



A green road sign with a white border and a white background, mounted on two silver posts. The sign contains a list of statistics in bold black text. The background of the slide is a blurred image of a road winding through a forest.

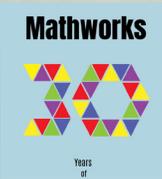
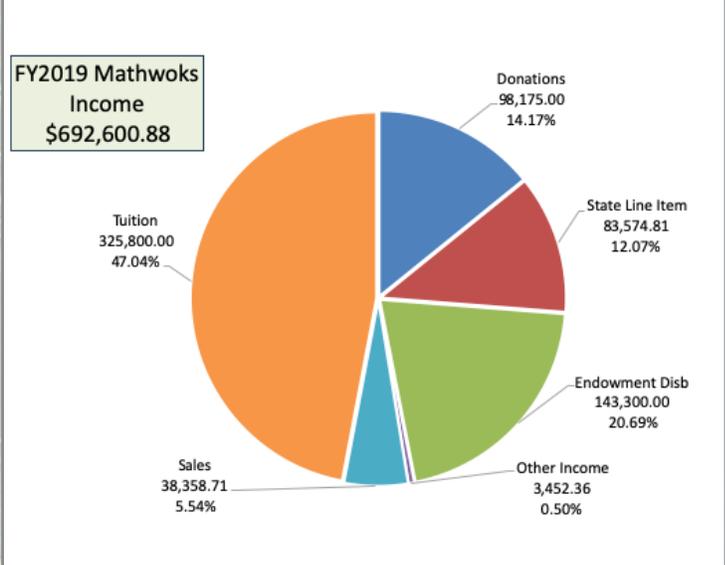
Students:	331
Counselors:	35
Undergraduates:	23
Graduate Students:	6
Master Teachers :	9
Faculty:	8
Mentors:	9
PD Teachers:	2
Endowment:	\$4.45M
Scholarships:	\$150,650

"I feel like I now view myself as a more mature learner of mathematics after experiencing some of the more complicated and arguably more practical applications of mathematics through both analysis and my research. I also see myself as being more capable of learning new topics, especially after learning about analysis from no previous knowledge of the subject."

- 2019 2nd Year Student

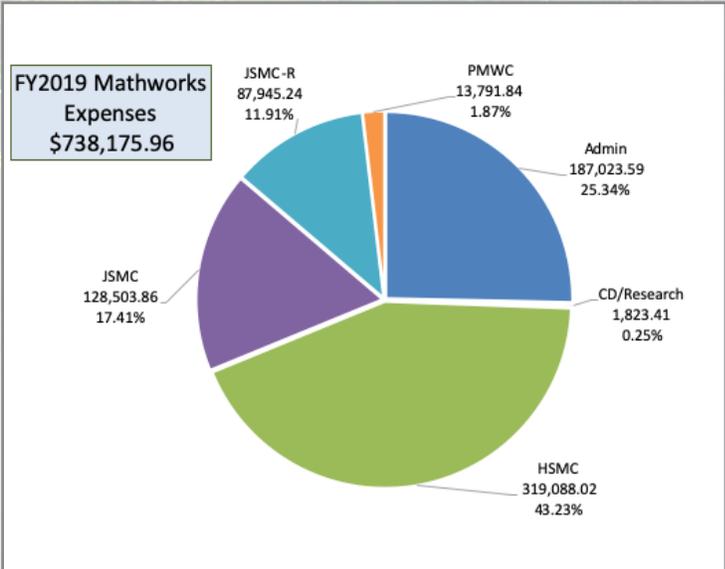
Mile Markers

- In FY19, the endowment balances increased to \$4.45 M.
- University Advancement adds Mathworks insert to Marketing Portfolio.
- Mathworks celebrated 30 years of innovation in mathematics education, and research.



Mathworks 30-Year Anniversary

Sustaining excellence in math education and research for 30 years is remarkable. Thank you for celebrating with us; attendance, notes, gifts, and encouragement will help us continue to provide and improve the programs. Highlights of Alumni Weekend included 4 panels of alumni talking about their experiences in camp and what they are doing now; a wonderful colloquium by Mike Starbird about "Cutting Cake for Greedy People;" and an evening Gala dinner featuring Ken Baker who attended HSMC for 6 years and is now a Professor of Mathematics at the University of Miami. Other weekend activities included a 4th of July Celebration at the Warshauer's, tubing down the San Marcos River, and a picnic at Rio Vista.



"Max! It's amazing to look back on all you and the phenomenal Mathworks team have accomplished over the past 30 years. You've impacted so many lives for the better, and completely changed mine. I'm so grateful for my camp years and the lifelong friends made here. Here's to 30 more years!"
 - HSMC Alum

"Dear Max, I still can't think of anything I would've rather done the 10 summers I spent at camp! Thank you so much for the opportunity to grow and make lifelong friends."
 - HSMC Alum



**Great things happen
when you move!**

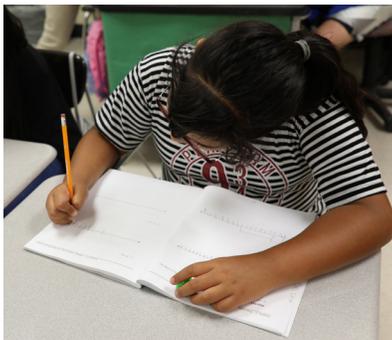
*"A journey of a thousand miles
begins with a single step."*

- Lao Tzu

Our Partners

Individuals

Baethge, Edwina
Behura, Somdutt
Butler, Sarah and Ernest
Chan, Wenyaw Chan & Chung, Alice
Chung, Shyh-Fen & Chen, Dung-Tsa
Early, Edward
Eastin, Bryan K.
Guo, Elizabeth X.
Hazlewood, Don & Carol
Jiang, Zhixiong
Kazlowski, Mark V.
Kodosky, Jeff & Gail
Koung, Fan-Hal
Lefkowitz, Lisa
Luo, Yin & Li, Qingsong
Malachosky, Ed
Malecha, Gregory
McCabe, Terence & Diann
McClymont, Kaitlin E.
Momsen, Moriah
Momsen, Ricarda
Peng, Jianbo
Roshan, I. & S.Y.
Rusnak, Lucas
Rutishauser, Robert G.
Salinas, Ben
Schmerling, Edward
Thill, Kevin
Trujeque, Adriana
Warshauer, Max & Hiroko
Westbrook, Teresa
Wichrowska, Maja
Wright, Elaine
Yager, James H. & Cheryl
Yalamanchili, Seshu
Yen-Yu, Julie
Yuan, Shengli
Zhang, Mengmeng
Zhang, Xiaofei



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**Thank you for
your commitment
to Mathworks and
to mathematics
education.**



*"Never doubt that a small
group of thoughtful,
committed citizens can change
the world: indeed, it's the only
thing that ever has."*

- Margaret Mead



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*"Two roads diverged in a
wood, and I—
I took the one less
traveled by,
And that has made all
the difference."*

- Robert Frost

Mathworks at Texas State University

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