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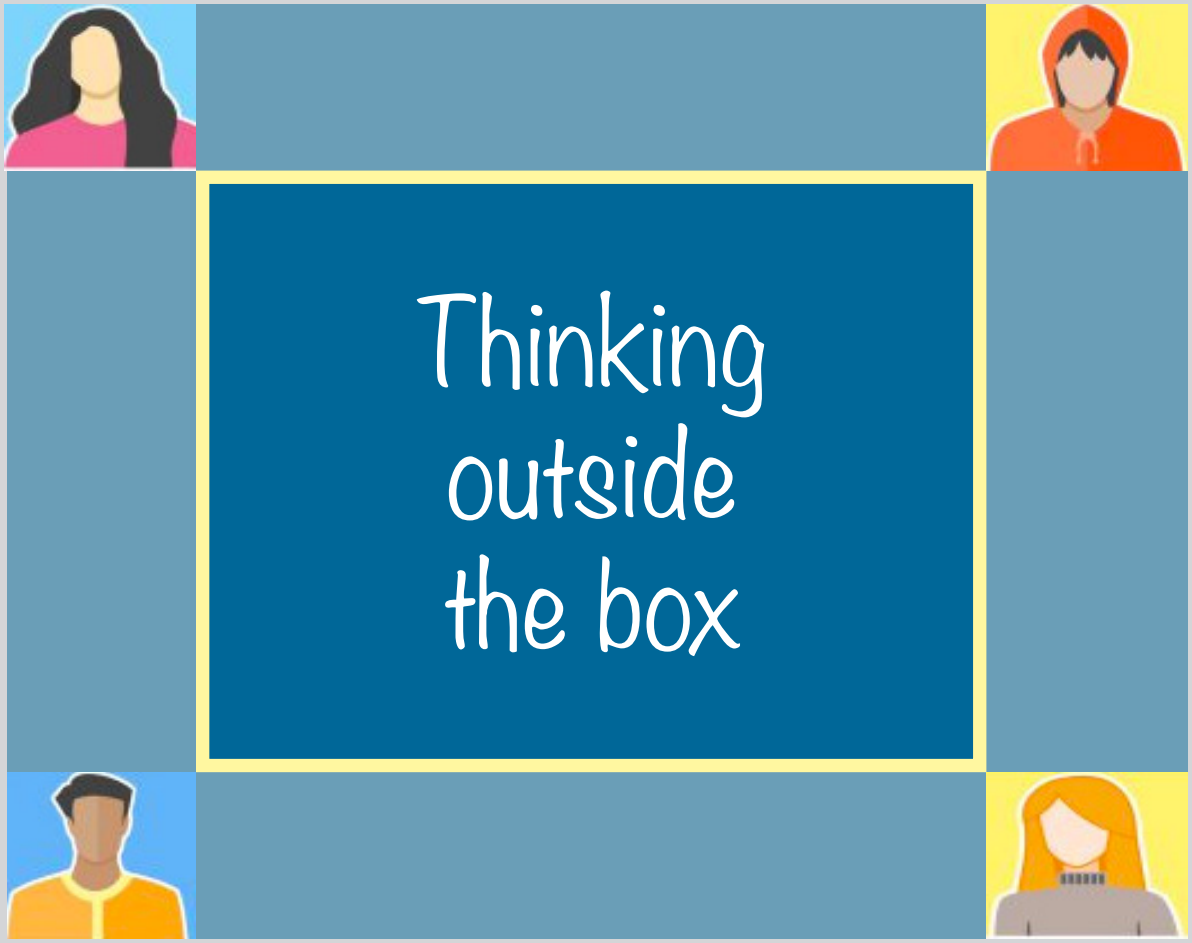

Mathworks
2020 Annual Report

Apart, but not alone.
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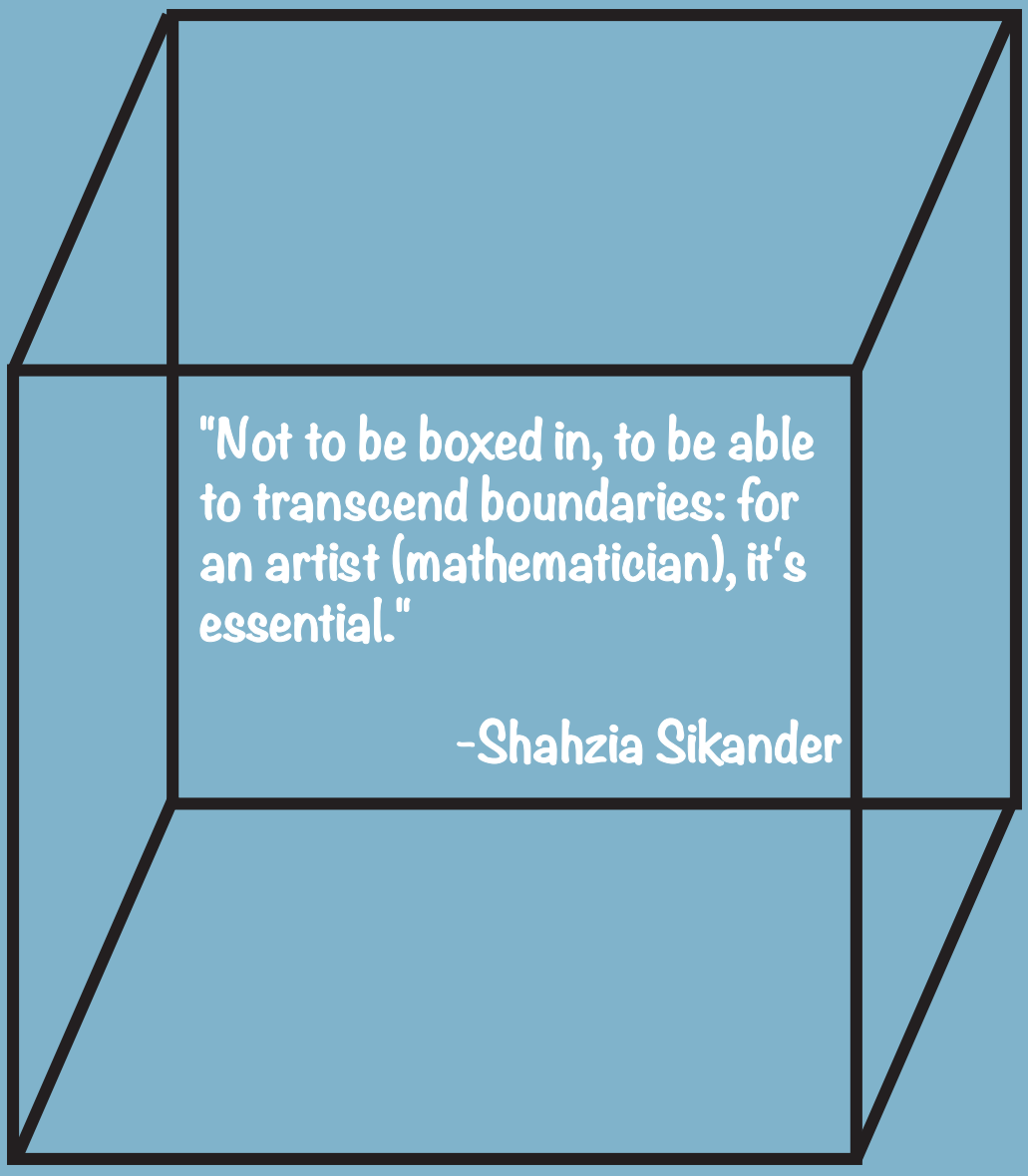
"I enjoyed study group the most. I am so grateful for my campers, for making my summer amazing even during quarantine. I think meeting up with my campers before camp started allowed for the first actual study group session to be more comfortable for all of us. I did not really enjoy how camp was broken up in chunks of time throughout the day.

-HSMC Study Group

From the Director

maybe talk about how covid changed our programs
Increased learning on new systems
still able to bridge learning even in this zoom environment
helping with free curriculum

Max



Mathworks
2020
Annual Report
Apart, but not alone.

Contents

FOUNDATION

"Man's mind stretched to a new idea never goes back to its original dimensions."

Oliver Wendell Homes Jr.

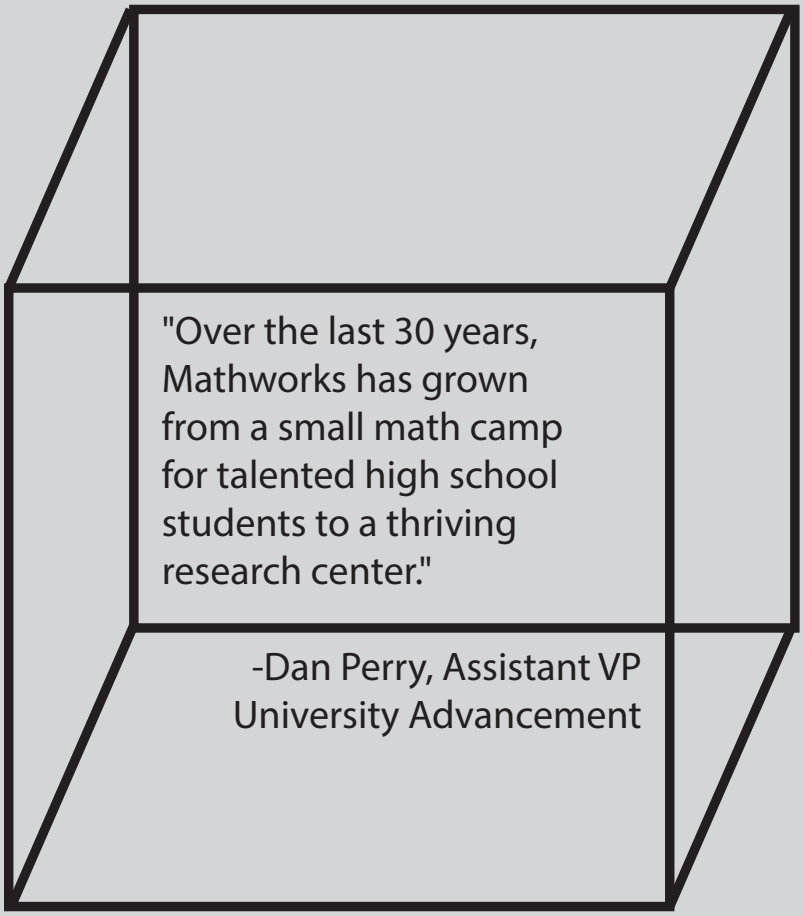
Mission and Vision

Mathworks at Texas State University is a center for innovation in mathematics education.

Our mission is to research and develop model programs and self-sustaining learning communities that engage students from all backgrounds in doing mathematics at a high level.

Mathworks has evolved and thrived under the three pillars advanced by Warshauer and initial program faculty members Dr. Terry McCabe and Dr. Don Hazlewood — summer math camps or middle and high school students, curriculum development, and teacher professional development. These three pillars are firmly rooted in the foundation of research to advance mathematics and mathematics educaiton.

Leadership Team



LEADERSHIP COUNCIL

Max Warshauer
Terry McCabe
Hiroko Warshauer
Cody Patterson
William Boney
Tim Chase
Eugene Curtin
Jian Shen
Susan Morey

TEXAS STATE UNIVERSITY

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

MATHWORKS STEERING COMMITTEE

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

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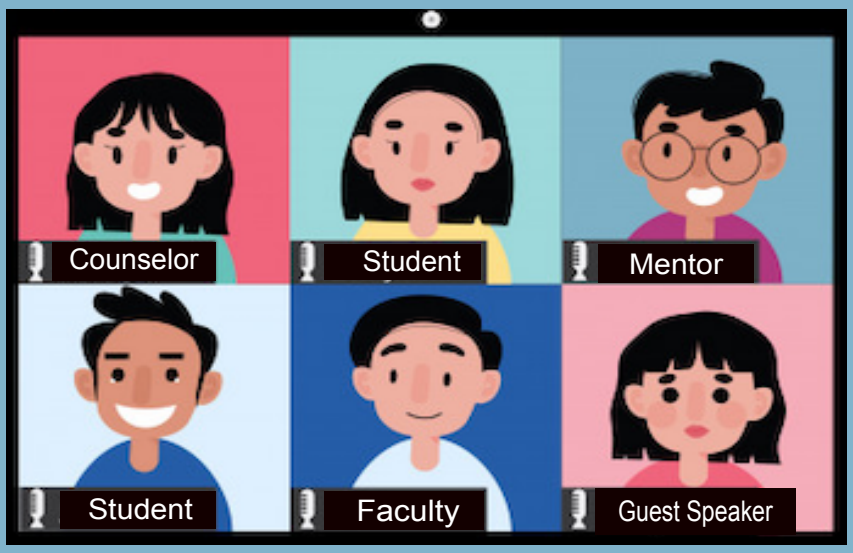


Guiding Principles

Doing Mathematics

Doing mathematics is about making sense of and thinking deeply about fundamental concepts. Students should learn to "think deeply of simple things," (Arnold Ross). Students need to:

- 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," understand and believe that ability can be developed with hard work
- Be willing to take risks and understand that mistakes present opportunities for learning
- Take ownership of their own learning
- Develop confidence to tackle new situations without giving up easily

Classroom Culture

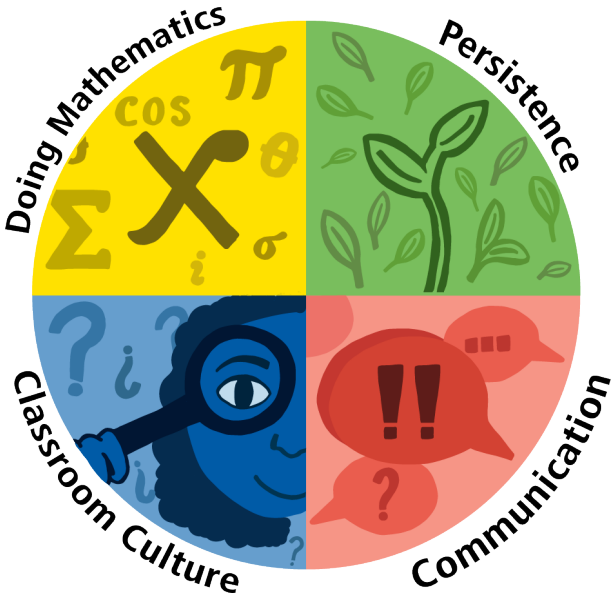
Teachers need to establish a classroom culture that develops students' curiosity and imagination. The keys to establishing this culture are to:

- Make math interesting, fun and relevant with challenging, well-sequenced problems
- Support student's 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 this, 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



FUNCTIONS

"Mathworks can be a space for learning how students think mathematically and how teachers develop their skills. "Mathworks is an ideal place for doing cutting-edge work at the intersection of research and practice in mathematics education."

- Cody Patterson

Math Camp Programs

Warshauer and his colleagues strive to enhance every student's love for mathematics through research-based instruction that keeps learning exciting and relevant. "The program is preparing a new leadership in our country so we can be competitive with the best students in the world."

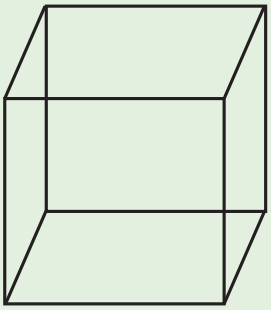
- Max Warshauer

Junior Summer Math Camp Half-Day (JSMC)

(2 weeks, June 8 - 19, 2020)

This program is a commuter two-week, multi-level math camp for students in grades 4 - 8. Because of Covid19, this camp was cancelled for summer 2020. Although the students did not get to attend, Mathematics Department faculty members, Cody Patterson, Hiroko Warshauer, and Terry McCabe, worked online with 12 master teachers to discuss the Mathworks Guiding Principles: Doing Mathematics, Persistence, Classroom Culture and Communication, and how these teaching practices are supported in our camps by our curriculum and the teachers. These principles provide a foundation that we use to develop a model math camp environment for learning mathematics at a high level. The project resulted in written material, authored by teachers and faculty for use in future JSMCH classes and professional development.

While we missed having the students each day during the camp, we are pleased to say that this time was critically useful for faculty and teachers to reflect upon Mathworks camp curriculum and practices and to develop new methods and resources for future camps. The 2021 Junior Summer Math Camp is planned for June 7 - 18, 2021. Applications will be available in January of 2021.



Mathworks Math Contest

483 students took the test.
32% Female; 68% Male
.2% scored 15 out of 15
11.4% scored 6 out of 15
13.3% scored 0 out of 15

Primary Math World Contest Team Members

- Katherine Liu, Sugar Land, TX
- Jessie Wang, Allen, TX
- Aiden Wen, Austin, TX
- Sophia Zhang, Austin, TX

Unfortunately, the trip was cancelled due to COVID-19 concerns.

Student Comments:

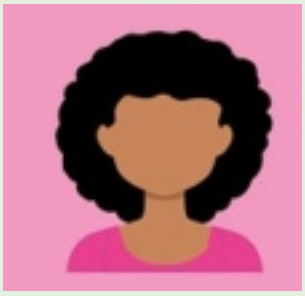
"It was also amazing to get to work with other kids who share a love for math. My teacher was also able to explain the problems in ways I could follow easily and understand. I had a lot of fun this summer at Mathworks and hope to come back next year!"

Junior Summer Math Camp - Residential (JSMCR)

(2 weeks, June 7 - 19, 2020):

In early April, we decided to conduct a virtual (online) camp to provide a high-quality environment for students to explore in-depth problem-solving. Despite the new platform and the challenges of conducting camp in a virtual environment, the faculty and counselors went to work to provide a fun environment for middle school students to learn, share, and engage in high-level mathematics and share other talents and interests.

Campers "arrived" on Sunday, June 7th for the first virtual meeting with the entire camp. After everyone introduced themselves, the counselors and students met with fellow campers and their prospective study groups. The goal of the program is to develop young students as creative and critical thinkers. Mathematics faculty members, Eugene Curtin, Jian Shen, and Tim Chase met each morning with the students in Zoom classroom environments to teach topics including number theory, geometry, counting, logic, and other problem-solving topics. They nurtured students' interests and abilities to pursue higher-level math through instruction and study group interactions. To maintain the fun environment, the students had free time to meet online and to enjoy sessions on baking, chess, exercise, calligraphy, scavenger hunts, and a t-shirt design project. The counselors provided support and encouragement in creating a Math Camp community. The first week ended with a colloquium, All the Symmetry You Can Buy for Two Dollars, given by Cody Patterson. The second week concluded with a talent show where the students showcased various musical talents and other skills.



Details about the camp:

- Faculty: 3
- Counselors: 19
- Staff: 3
- Students applied: 161
- Students accepted: 72 middle school students (36 female, 36 male)
- Scholarships: 21 students, $19,100

"Canvas took some getting used to at first, but I realized the organization, how everything was already in place for me, and I chose to embrace that. I think submitting work was pretty easy, and for presentations I didn't get the mental burden of having thirty pairs of eyes fixated on me while I was talking, because they were mostly looking at the work being presented."

"This camp helped me develop a new way to see math and it got me a bit closer to what I want to become, an architect. This camp was different from others that I've been to for the other camps bore me to death while this camp was engaging and fun."

Honors Summer Math Camp (HSMC)

(6 weeks, June 21 - August 1, 2020):

The HSMC was also conducted using a virtual platform for an exciting six-week, intensive learning environment for 70 (38 female, 32 male) talented students. Using Zoom the students had classes in a
virtual classroom, nightly study groups, and free time to meet with faculty, peers, and mentors.

The first-year students took Number Theory, which started at 8:30 am each morning taught by Max Warshauer followed by an Honors Seminar class taught by Ellen
Robinson. Honors Seminar, where students read The Five Elements of Effective Thinking, by Mike Starbird and Ed Burger, connected to the topic discussed during Number Theory. Next the students and counselors had free time to share thoughts, games, talents, and more. At 1:00 pm, the students returned to a Zoom class with Don and Carol Hazlewood where they learned to program using Mathematica. Later in the afternoon, the counselors attended a teaching seminar. Meanwhile, the returning students worked on research projects in the mornings in small groups mentored by faculty from Math and Computer Science. They then took afternoon classes in Analysis taught by Tim Chase and Terry McCabe, and Abstract Algebra taught by Eugene Curtin. All of the students attended nightly study groups led by an incredible group of counselors, working in groups of 3 or 4 students. The study groups provided a setting where the students could work together on problem sets from the courses they were taking.

We also had an outstanding group of speakers on a wide variety of topics; and concluding research talks from the returning students. Speakers and topics included:

- June 12, Cody Patterson, All the Symmetry You Can Buy with Two Dollars
- June 26, Lisa Lowrance, My Time at Math Camp and The Five Color Theorem
- July 3, Mike Starbird, Doughnuts, Dogs Bones, and Topology
- July 7, Admiral Bob Inman, Life Story and the Challenges we Face
- July 10, Evan Dummit, Pick's Theorem and Farey Fractions
- July 17, Kate Melhuish, A Window into the World of Mathematics Education Research
- July 18, David Bamberger, Bamberger Ranch Conservation and Stewardship
- July 24, Dan Shapiro, Integer Sequences and Divisibility
- July 28, HSMC Presentation of Research Projects
- July 29, HSMC Presentation of Research Projects (continued)
- July 31, Lauren Ancel Meyers, Modeling to Mitigate the COVID-19 Pandemic

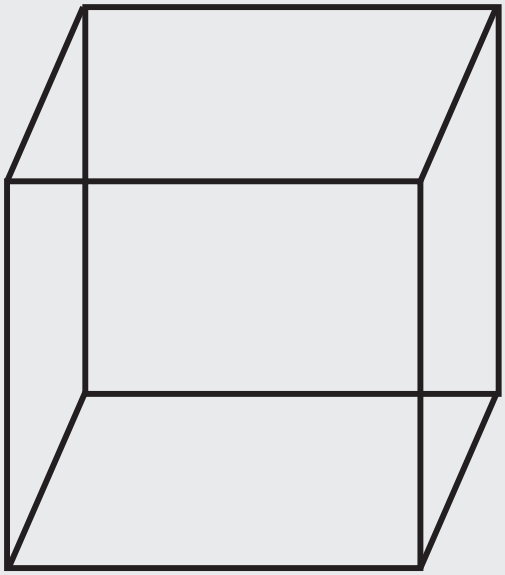
Camp officially ended on July 31 with a talent show. However, counselors, second-year, and third-year students will continue to work on the sixteen sixteen different original research projects with their faculty mentors into the fall. Many of these projects will be submitted for publication and/or entered into science and math competitions. Read about the research projects in the Research Section of this publication, page XXXX.

Student comments:

"HSMC has truly allowed me to find another family I belong to, make new friends, all while challenging my math skills and expanding my problem solving skills. I can't imagine how much more amazing camp would be if it were in-person. I really hope that I will have the chance to experience HSMC next year in Texas, and have even more of a blast with everyone!"

"Dr. Meyers may have been the most relevant to me since she talked bout modeling viruses which is basically my research project. My favorite activity in the camp was research. At first, it was a little frustrating because we didn't have an exact clear path (sort of hard to find something "new" with COVID). However, Dr. White helped us find a good idea of taking into account spatial movement and is continuing with us after camp. I appreciate his time in helping me and my fellow researchers find something new for COVID."

"Playing social deduction games with my study group quickly became something I looked forward to every day. In lieu of the in person bonding time we would normally have, my group played everything from online One Night Werewolf to Avalon to Spyfall and more. Least favorite part: I miss being in-person and getting to spend 27/7 with all these amazing people. More specifically, I miss the weekend trips."



Details about camp:

- o Faculty: 7
- o Counselors: 19
- o Research Mentors: 9
- o Research Projects: 16
- o Staff: 3
- o Students applied: 287
- o High School Students Accepted: 70
  - o 32 First-year
  - o 27 Second-year
  - o 11 Third-year
- o Scholarships: 15 students, $39,000

HSMC Research Projects

Forty-nine high school students worked on 16 original research projects mentored by Texas State Faculty

- Tableau Stabilization (Jacob D. David, Christopher Wu); Mentor: Suho Oh
- Comparative Analysis of Haploytpe Assembly Algorithms (Daphne Han, Pierce W Lai, Sarah Wei); Mentor: Shuying Sun
- BS Co-Methylation Patterns in Breast Cancer Samples (Flora Cheng, Jael J Dammann, Christine Tian, Alice L Zhong); Mentor: Shuying Sun
- Counting Prime Graphs of Finite Solvable Groups (Ishita Goluguri, Eli P Meyers, Kenta J Suzuki); Mentor: Thomas Keller
- Generalizing Kirchhoff Laws for Signed Graphs (Amelia Yixin Hu, Skyler J Johnson, Peter Ye); Mentor: Lucas Rusnak
- An Oriented Hypergraphic approach to Hadamard's Conjectures (Russell A Li, Eric Yan, Justin Y Yu); Mentor: Lucas Rusnak
- Simultaneous Compression and Encryption Using Improved Shannon-Fano-Elias Codes (Amy K Chang, Rebeca De La Garza, Andrew C Jiang, Aman A Tewari); Mentor: Dan Tamir
- Score-based Evaluation of Pseudo-Random Number Generators (Ethan Liu, Jonathan C Liu, Isabella Quan); Mentor: Dan Tamir
- Parametric Representation of Point Clouds Through Interpolation (Susan Janet Hamilton, Alan Lin, Jason S Wu); Mentor: Dan Tamir
- Computing with Words in Threat Detection Systems (Alicia Y Lin, Raghav G Samavedam, Samuel Tian, Richard Z Zheng); Mentor: Dan Tamir
- Student Definitions of Success at an Informal Math Camp (Angela P Landry, William Wang); Mentor: Cody Patterson

- Analysis of the Spread of COVID-19 and Impacts of Mitigation Interventions by using Cellular Phone Mobility Data in Jilin, China (Alkiviades Boukas, Sophie T Cui, Esther M Lee, Mary M Lee); Mentor: Alex White
- A Multivariate Analysis of COVID-19 Disparities in 254 Rural vs Urban Counties in Texas using Multiple Linear Regression Models (Amber K Luo, Charles Sean Sun, Jasmine Wang, Sophia Zhong); Mentor: Alex White
- Poisson Process Analysis of Classroom Observation Data (Jennifer J Zhang, Annie Z Zhu); Mentor: Alex White
- Determining Explicit Forms and Relationships between Liouville Manifolds (Alice Shanshan Guo, Naomi Kenyatta, Michelle Xiang); Mentor: Hiro Lee Tanaka
- Graph Balancing for Network Data Analysis (Rachel A Laing, Allen Z Wu); Mentor: Jelena Tesic

Mathworks Curriculum

Free Curriculum Available During Covid-19

As the news about the COVID-19 pandemic spread, many schools decided to move the remaining of the 2020 spring semester to online instruction. As the shift takes place, Mathworks moves into action to provide parents and teachers the opportunity to use the Mathworks curriculum products.

As a result, 516 products were downloaded as parents and teachers scrambled to find quality math products for their students. The majority of recipents of the free curriculum offer reside in Texas. However, nearly 20 percent of the individuals were from outside of Texas, some even from outside the United States.

2020 Curriculum Sales

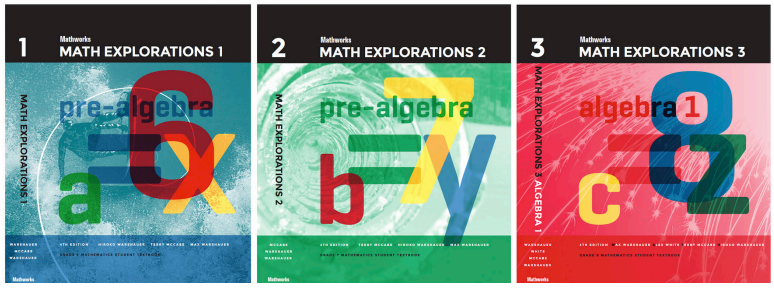
Math Explorations	$17,641
Math Quest	$ 665
Total Sales	$20,587

Math Quest Curriculum

From a first-year program that introduces students to beginning concepts in algebra through play-acting and drama (dramathics), to a more advanced program in problem solving and discrete math, students enjoy exploring problems together and share in the excitement of mathematical exploration and discovery.

The Math Quest Curriculum is used during the Junior Summer Math Camp and has been for the past 25 years. With years of research associated with best practices and the model program, this currriculum ultimately became the foundation for the Math Explorations Curriculum.

"I really appreciate this program because it helps me think more. Before I got into this program, in math problems I just wrote the answer. Now I think about it."



Math Explorations Curriculum

Math Explorations is a series of three textbooks that cover the Texas Essential Knowledge and Skills (TEKS) for 6th grade, 7th grade, 8th grade, and Algebra I. The textbooks integrate research from the laboratory of our summer math programs that have been held for more than 30 years.

With this curriculum, young students are engaged in using algebraic ideas, and these ideas are built upon throughout their middle school years. Math Explorations weaves algebra and algebraic ideas with hands-on, inquiry-based explorations for students working independently and in groups.

Professional Development

The Mathworks Summer Teacher Professional Development (PD) program prepares teachers to engage students of all backgrounds in doing mathematics at a high level. This 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 to succeed in mathematics.

Typically the program runs in conjunction with the Junior Summer Math Camp commuter porgram (a two-week, multi-level math camp for tudents in grades 4 - 8. Because of Covid19, this camp was cancelled for summer 2020. Although the students did not get to attend, Mathematics Department faculty members, Cody atterson, Hiroko Warshauer, and Terry McCabe, worked online with 12 master teachers to discuss the Mathworks Guiding Principles: Doing Mathematics, Persistence, Classroom Culture and Communication, and how these teaching practices are supported in our camps by our curriculum and the teachers. These principles provide a foundation that we use to develop a model math camp environment for learning mathematics at a high level. The project resulted in written material, authored by teachers and faculty for use in future JSMCH classes and professional development.

While we missed having the students each day during the camp, we are pleased to say that this time was critically useful for faculty and teachers to reflect upon Mathworks camp curriculum and practices and to develop new methods and resources for future camps.

Our Goal

Is to capture what the Mathworks Camp Curriculum and Guiding Principles "Look like, Sound like, and Feel like..."

1. Acquaint teachers with the Mathworks Guiding Principles (GP) and the research on children's mathematical thinking and learning that informs these principles.
2. Familiarize teachers with the mathematical ideas and learning trajectories that are central to the Math Quest curriculum.
3. Offer illustrative examples for how the GP are enacted in our JSMCH and how to put the GPs into practice while supporting students in exploring new concepts.

Researach

“Mathworks bridges our legacy as a teacher’s college and our vision to become a national research university."

- Dr. Dan Perry, assistant vice president for University Advancement

"Before actually doing a project in math ed, I always assumed that I wanted to be on the cognitive side of it because I liked the question why and I liked knowing how students thought. This project helped me see what that would look like in practicality.”

- Seeking PhD Math Ed

Graduate Student Research Projects

Six Texas State graduate students in either the PhD program in mathematics education or a MS program in mathematics (Justin Eccles, Lino Guajardo, Christina Koehne, Josephine Reynes, Jacob Shapiro, and Holly Zolt) worked online with Hiroko Warshauer to develop activities and resources that build on state-adopted school Mathworks curriculum-Math Explorations; our Math Quest camp workbooks, and our Math Reader and Math Explorer publications with problems, activities, and articles for elementary and middle school students.

The new activities developed by graduate students will be implemented in the 2021 JSMCH coordinated with related research studies that investigate the effectiveness of tasks, student engagement, and teaching practices. Max and Hiroko will be on Developmental Leave this coming year to continue this work, while piloting and researching the ways that young students can use these out-of-class resources.

The Outcome

By reviewing Mathworks articles from Math Reader and Math Explorations magazines (1998-2006), we were able to select 20 articles to further develop. These articles were used to seek research and practitioner articles related to content and develop activities related to the articles. We then designed a plan to pilot the activity; develop research questions that connect to JSMCH curriculum that will be implement in summer 2021

Texas State professor utilizes math models to make inroads against COVID-19

Taking on COVID-19 has entailed a 3-prong approach from Alex White, a professor of mathematics education and the assistant chair of the Mathematics Department at Texas State University.

White has teamed up with both Mathworks, a center for innovation in mathematics at Texas State, and Lauren Ancel Meyers, a professor of integrative biology at the University of Texas at Austin, to put some new math models to work. A research group headed by Meyers has been using those models for several years to predict the spread of diseases. Meyers' mathematical models utilize graph theory to model how disease spreads through a contact network, data from public health officials in the U.S. and Canada and computer simulations to design optimal control measures of diseases.

One aim is to determine: Who should receive vaccines when the supplies of the vaccine are insufficient? Which mitigation strategies are the most effective? The overall project is designed to study how the models are developed. Simulations are used to determine optimal control measures.

COVID-19 has thrown a batch of new elements into the equations.

"A lot of the techniques we have still apply for COVID, but specific parameters we include were uncertain due to uncertainty in the testing," White said. "The data gets better over time."

An even more difficult component of countering COVID – the differences in the way the virus presents itself compared to other diseases. Typically, an infected person is going to display symptoms before a person they transmits a virus to. However, COVID-19 requires a different analysis.

"Your thoughts about how a disease should behave and the parameters you put on it don't apply," White said. "The time gap between the infector and infectee showing symptoms is usually positive. In this disease, a percentage of that is negative. Even though Person X infects Person Y, X might show symptoms after Y."

This revelation is one of the puzzles posed by COVID-19.

"You typically have a signal with other diseases that a person might have the disease," White said. "Here, the signal is not always present."

One benefit of the challenging questions posed by COVID-19: students have received ample opportunities to contribute to the discussions. High school students who attended the Honors Summer Math Camp at Texas State worked on two projects. The first project involved looking at and understanding the relationship among counties throughout Texas regarding the rate of spread in urban and rural counties.

"The initial spread was focused mostly on urban areas, but there has been spread to rural areas," White said.

The second project involved analyzing data from a second outbreak in China. A response in February in March may have knocked the disease down, but how did hard cell phone data registering mobility relate to a second outbreak?

Students in the HSMC, who come from eight different high schools, also were able to participate in 30-muinute Zoom meetings. That afforded them the chance to hear from modelers with the Columbia School of Medicine, Northwestern University, UCLA and modelers from South Africa and England.

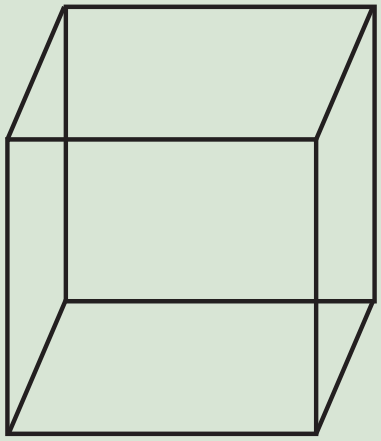
"They are top researchers in the modeling field," White said. "They are the people the Centers for Disease Control and Prevention reach out to."

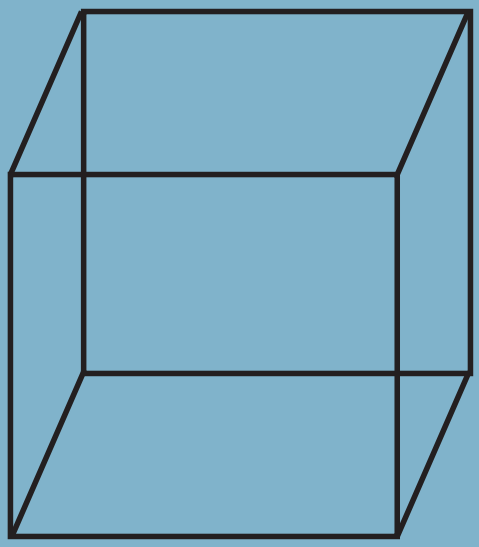
The group efforts by the HSMC participants and their ability to hear from modelers throughout the world provided many benefits to White.

"These students are extremely hard working and academically oriented," White said. "They ask excellent questions and make me as a researcher think more deeply about questions. It helps me to hear their different perspectives and how these problems affect them. It's a pleasure to work with those students – you give them a problem and they come back with ideas."

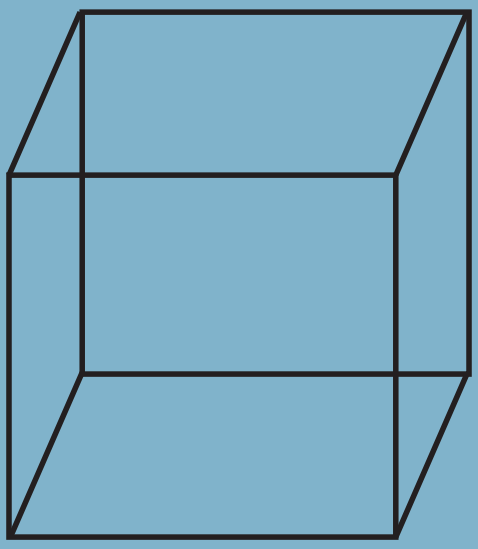
A personal motivation for the high school students to jump in and assist revolves around the modelers looking at the impact of opening schools or not opening. "We got to hear from students in Texas, Pennsylvania and California," White said.

Within that U.S. effort, there is the collaboration between White, his peers in Texas State's mathematics department and Meyers' crew at UT-Austin. "The research I have been doing with students (at Texas State) is funded internally, but we are also taking advantage of the resources Dr. Meyers has."





FUNDING

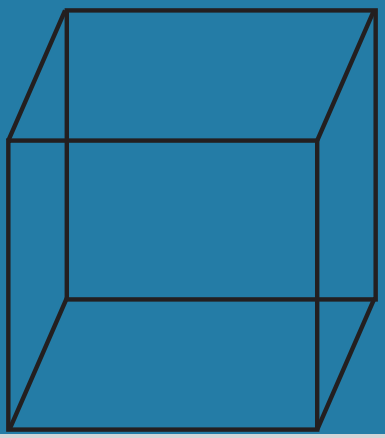


DONOR THANK YOU

Giving comes in a variety of forms: time, talent, services, and funds. Our faculty give their time and talent to making sure their lessons are clear, helpful, fun and engaging. Our counselors work hard to make every camper feel comfortable, valued, and supported at every turn. Mentors have worked tirelessly to guide students in their research endeavors. We can safely say that everyone involved in the Mathworks programs have given of themselves in one way or another. Thank you all for your dedication.

Along with these gifts, we are especially thankful for the donations from individuals, businesses, partners, and alumni. With the financial support of these groups, we would not be able to conduct the Mathworks programs. Thank you to all our donors:

- American Math Society Epsilon Fund
- Sarah and Ernest Butler
- Herb Carter
- Jeff and Gail Kodosky
- KLE Foundation
- RGK Foundation
- Harman Sooch Foundation
- H-E-B tournament of Champions
- Mathworks Alumni

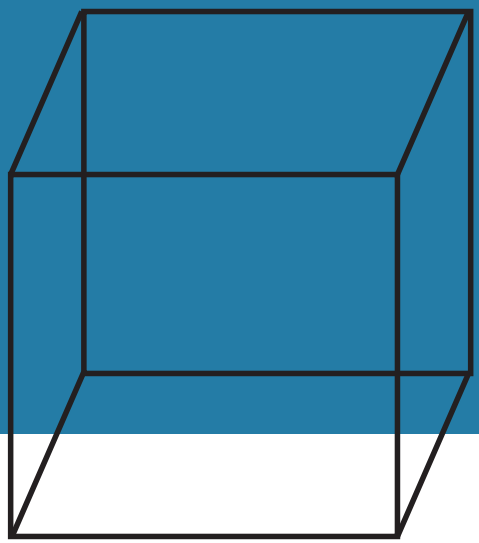


Support:

Donotions & Grant

"No one has ever become poor by giving."

-Anne Frank



Corporate and Foundation Gifts

- **American Math Society Epsilon Fund**
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- **RGK Foundation**
- **Harman-Mayes Sooch Foundation**
- **H-E-B tournament of Champions**
- **Mathworks Alumni**

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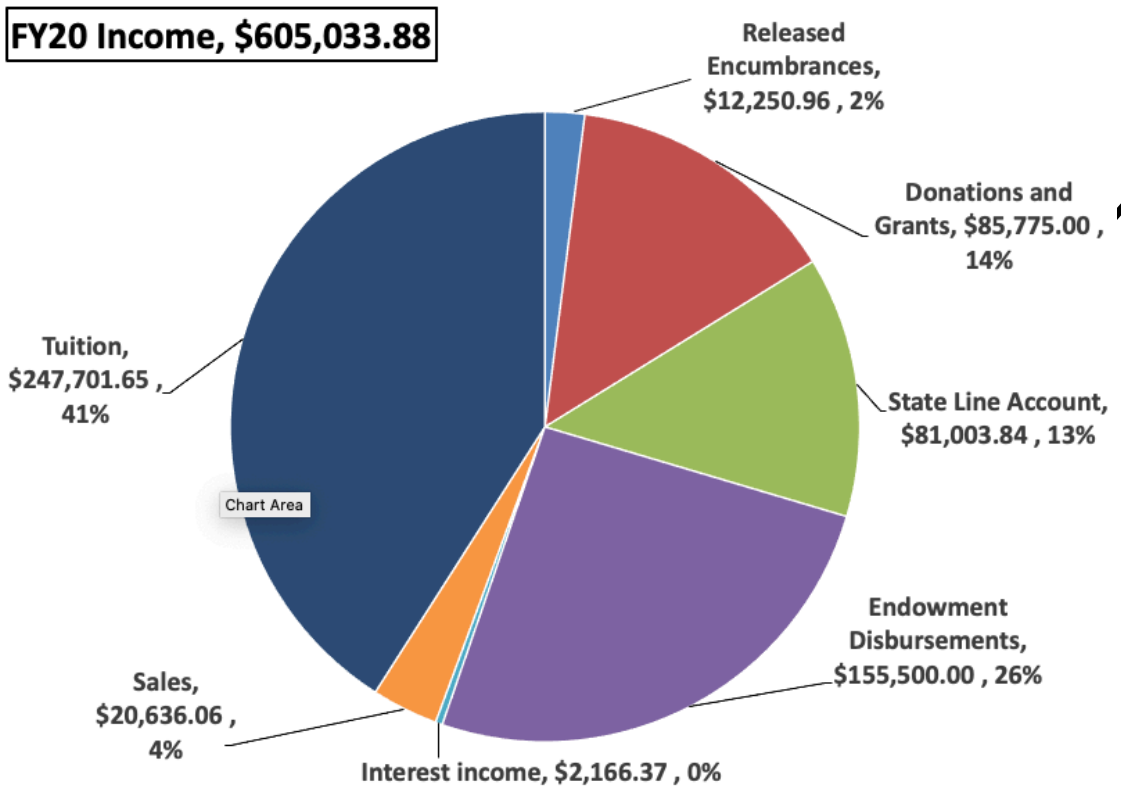
Dr. Cody Patterson
Dr. Cynthia Gonzales & Bill Guajardo
Dr. Paul C. Dawkins
Dr. Wade Hindes
Drs. Max & Hiroko Warshauer
Ford Charitable Fund
Google Matching
Harman-Mayes-Sooch Family Fund
HEB Tournament of Champions
Henry Bruce Gonzalez
Judith Claypool
Kaelie Garacia
Maja Wichrowska
Mary Budd
Melissa Burkett
Moriah Momsen
Mr. Donghui Kan
Mr. Jun Han
Mrs. Kaitlin E. McClymont
Ms. Judith Rockman
Ms. Shyh-Fen Chung and Mr. Dung-Tsa Chen
Ms. Xiao Y. Li
Patricia Amende
Regina Lefkowitz
Richarda Momsen
Victor Cepeda
Yongming Zhu and Beiyi Cai
Zhixiong Jiang

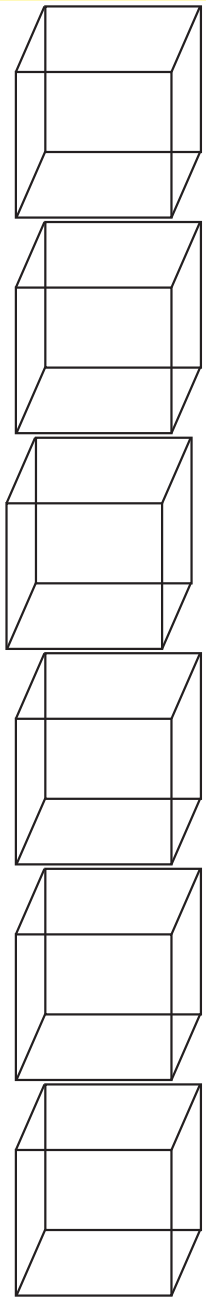
Financial Report

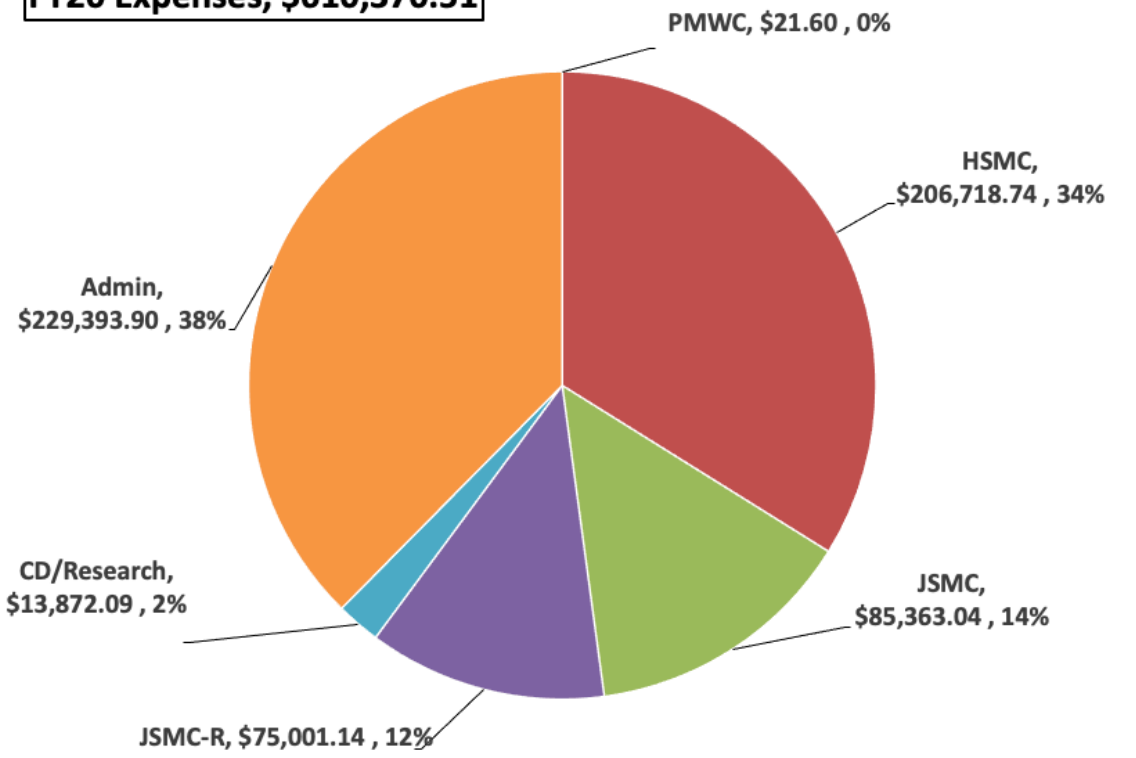
"Being surrounded by people who shared my passion and curiosity for mathematics everyday, allowed me to be who I truly was. Before camp I lived behind a mask, scared of being judged or ridiculed by my classmates. But now, I have found a community that shares and accepts my excitement for mathematics. I began taking pride in my mathematical abilities and day by day the facade I built for myself started fading."

-First-Year Student



Endowment balance increased to 4.58 M.





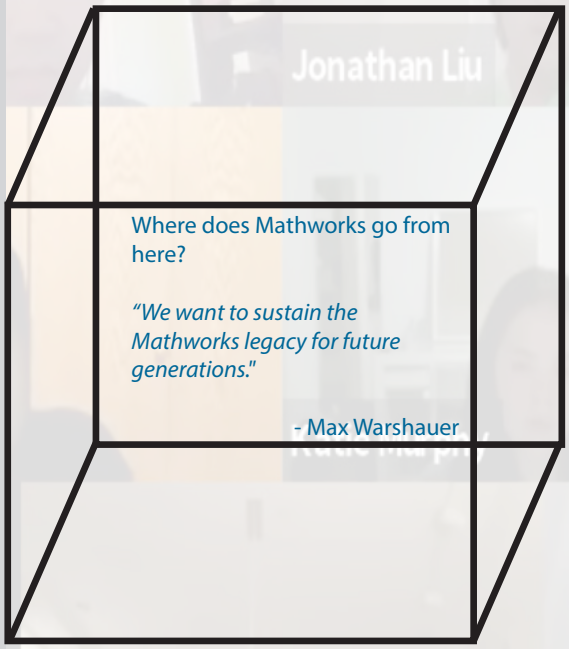
"Before this camp I had a very fixed mindset. If I didn't know I wouldn't ask about it because of the risk of sounding stupid and now I am not afraid to ask the question that will help me learn about new things. This camp has helped to accept failure. Not as a bad thing but as a teacher."

- First-Year Student

Future

"The emphasis on understanding the most basic levels of math, and understanding it deeply has also been incredibly helpful, and this method of thinking can be applied to so many other types of problems. This camp has helped me to think more deeply about problems and try different methods of analysis. In the future, I hope to apply this mindset and the methods I learned to solve other problems, not just math problems but perhaps societal problems more creatively through social entrepreneurship.

- First-Year Student



"The Future depends on what we do in the Present."

-Mahatma Gandhi

"I really going to office hours and assisting the first years with number theory, mostly because it was nice to get to know them and see what they're working on and also sometimes they'd ask questions about how in person camp would be like and it would be fun to tell them all the cool things about HSMC in person! I also enjoyed refreshing my knowledge of number theory, especially since I am wanting to be a first-year counselor next year at HSMC!"

- Third-Year Student

"Next year I hope to return to HSMC as a second year (hopefully it's in person next time) and conduct my own research project; but I do not only wish to be a student in this program. Throughout my time at camp the idea of becoming a counselor and helping the next generation of campers grow and succeed has evolved into a goal I yearn to achieve."

- First-Year Student

Apart, but not alone.
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Apart, but not alone.
Apart, but not alone.
Apart, but not alone.

Thinking outside the box

Mathworks at Texas State University

Mathworks is a center for innovation in mathematics education at Texas State University.

Our mission is to research and develop model programs and
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