

CMC-N Mathematics Conference

Asilomar 2019

www.cmc-math.org



62nd Annual Conference
December 6-8, 2019

Asilomar Conference Grounds
Pacific Grove Middle School
Pacific Grove, CA



welcome to Asilomar

Take time to explore mathematical ideas and teaching for understanding. Whether you're a first-timer or a veteran of many Asilomar conferences, we hope this brochure will help you find the exciting opportunities that await you at this year's conference!

A Place to Get New Ideas...

Asilomar is a place to get lots of new lessons and ideas to use in your classroom. Attend sessions led by teachers and educators from all levels, and all over California, the United States, and beyond. Experience hands-on workshops and fun-filled activities you will want to share with your colleagues and students. The Asilomar conference provides over 200 sessions in a three-day program that offers a rich variety of experiences to suit every grade level and to cover all strands of mathematics.

A place to learn what is new in mathematics education...

Come to Asilomar to learn about and discuss the latest mathematics education news, information and issues. We are proud to have an outstanding group of presenters—people at the forefront of change in mathematics instruction. Discover how changes in state and national policy, teaching techniques, materials, texts and assessment will affect your classroom, your students and your teaching.

A place to network...

Hundred teachers from all levels attend Asilomar each year. Take this opportunity to enlarge your network of colleagues who can assist you in building your math program. Become part of the CMC network that supports math teachers throughout California. Meet new friends who share your interests and love of teaching.

A wonderful place to be...

Asilomar is a beautiful State Park. You will encounter many species of wildlife as you meander through the grounds or take the boardwalks to the dunes. Join us!



Rita Nutsch - Conference Coordinator
 Monica Rock - Program Chair
 Julie Crozier - Registration
 Linda Goulet - Pacific Grove MS Coordinator
 Grayson Fong - Pacific Grove MS Tech Coordinator

Thank You

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Evaluate the conference by December 31, 2019 and you will be entered in a drawing for **FREE** conference registration and on grounds housing for next year. **The winner for this year's free registration and housing is Justin Silveira.**



Go to bit.ly/2019Asilomar to enter to win a **free** registration or **free** housing at next year's conference by completing the **Conference Evaluation.**

Kick-off | Mini Conference

Speaker	Topic (Session descriptions on page 4.)	Grade Level	Room
Tracy Sola, Mia Buljan	4-Star Rubrics Empower Students to Own their Math Community!	PK-2	Heather
Bernard Frost	Hook Them In: The Secret to Engaging All Students in Math	3-5	Acacia
Robert Kaplinsky	How to Help Students Become Problem Solvers, Not Math Robots	6-8	Oak Shelter
Dan Meyer	Every Teacher a Storytelling Teacher	7-12	Evergreen
Julie McNamara	Why Do Rational Numbers Make Me Feel So Irrational?	GI	Toyon

Program | Friday - Sunday

	Time	Event	Location
Friday	3:00-7:00pm	Registration and bag pick up (Mini Conference participants can pick-up their bags at 12:30pm)	Surf & Sand, Asilomar
	4:00-6:00pm	Newcomers' Session (20 minute repeating presentations)	Triton, Asilomar
	6:00-7:00pm	Dinner	Dining Hall, Asilomar
	6:00-7:30pm	Exhibits (materials for purchase and bag pick-up)	Gym, Pacific Grove MS
	7:30-9:00pm	KEYNOTE SESSION: (information on page 5) Christina Lincoln-Moore Talk Number 2 Me: Mathematics & Mindfulness	Auditorium, Pacific Grove MS
Saturday	7:00-8:15am	Breakfast	Dining Hall, Asilomar
	7:30am-12:00pm	Registration and bag pick-up (Bag pick-up only at PGMS until 11:30am)	Surf & Sand, Asilomar
	7:45-9:00am	Newcomers' Session (20 minute repeating presentations)	Triton, Asilomar
	7:30am-4:30pm	Exhibits (materials for purchase)	Gym, Pacific Grove MS
	8:00am-12:00pm	Sessions (matrix begins on page 10, speaker section begins on page 14)	
	8:00am-5:00pm	CMC Community Hub	Afterglow, Asilomar
	12:00-1:30pm	Lunch (refer to page 8)	Dining Hall, Asilomar
	1:30-5:00pm	Sessions (matrix begins on page 10, speaker section begins on page 14)	
	3:00pm	Drawing	Gym, Pacific Grove MS
	5:15-6:00pm	CMC-N Affiliate Gathering	Fred Farr, Asilomar
6:00-7:00pm	Dinner	Dining Hall, Asilomar	
7:30-10:00pm	Ignite! and President's Party Everyone Welcome!	Merrill Hall, Asilomar	
Sunday	7:30-9:00am	Breakfast (pick-up box lunch)	Dining Hall, Asilomar
	8:00-8:45am	CMC-N Membership Meeting	Surf & Sand, Asilomar
	9:00-10:15am	MORNING KEYNOTE SESSION: Robert Q.Berry III — Catalyzing Change: Critical Conversations in Mathematics	Merrill Hall, Asilomar
	10:15-10:45am	Coffee Break	
	10:45am - Noon	MID-MORNING KEYNOTE SESSION: Deborah Loewenberg Ball, Amber Willis (How) Can Mathematics Teaching Disrupt Racism and Oppression?	Merrill Hall, Asilomar

Kick-off Mini Conference

Friday | Asilomar 1:30 - 4:30

Pre-registration required.

Frost, Bernard — Spartanburg SD 2

Hook Them In: The Secret to Engaging All Students in Math

Participants will explore multiple ways on how to implement lessons with fun and innovative and cultural-relevant activities that will HOOK students into the lesson while maintaining engagement and increasing student achievement. Teachers will leave this hands-on workshop with various activities to engage all students, promote academic discourse, and assist students with developing a conceptual understanding of each lesson. 3-5 | INT | 7 | Acacia | BT

Kaplinsky, Robert — robertkaplinsky.com

How to Help Students Become Problem Solvers, Not Math Robots

If you're frustrated because students seem like they understand what you teach them... until you see their test scores, then you'll love using problems with open middles. Come learn how to implement problems that will clearly show what your kids know, help them become problem solvers, and have them begging for more. 6-8 | INT | 4 | Oak Shelter

McNamara, Julie — Cal State East Bay

Why Do Rational Numbers Make Me Feel So Irrational?

Why does $0.2 \times 0.2 = 0.04$? Why do we "keep, change, flip" (or is it "flip, and you can keep the change") to divide fractions? And what's the difference between 100% increase and 100 times increase? Most of us have had limited opportunities to develop our own "rational number sense" so we may teach these topics by resorting to tricks and memorization. We'll explore why this is such a thorny topic as well as strategies for helping students work with rational numbers with understanding and success. GI | INT | 8 | Toyon | BT

Meyer, Dan

Every Teacher a Storytelling Teacher

Students like stories more than math. They spend their free time and money consuming stories. They produce stories themselves. Cognitive psychologists also describe stories as "psychologically privileged," the triangle peg for our brain's triangular hole. We'll spend a day learning techniques for turning boring, challenging mathematics into engaging, memorable stories. (Bring a laptop. It's a storytelling tool.) 8-12 | PRS | 5 | Evergreen

Sola, Tracy — Silicon Valley Mathematics Initiative

4-Star Rubrics Empower Students to Own their Math Community!

4-Star Rubrics empower students to take charge of their own learning by giving them a structure to develop, rate, and improve explanations and justifications, independently, with peers, and with the teacher. Rubrics are explored and developed. Video cases from diverse classrooms are featured. Learn about this equity tool that helps to create an inclusive community of teachers and learners that can help themselves and one another so that the teacher is no longer the only authority in the room! PK-2 | INT | 3 | Heather | BT

Co-presenter: Mia Buljan

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Pacific Grove MS, Auditorium | 7:30-9:00

Christina Lincoln-Moore — Los Angeles Unified SD

Is an innovative Constructivist educational leader who is tenacious and profoundly dedicated to mindful project-based learning to engender formidable mathematics identities. She taught for LAUSD from 1996 until 2014. She is the new Assistant Principal at Westside Global Awareness Magnet. Her goal is to transform the mathematics programming by infusing mindfulness and powerful best practices. Christina presents as a Featured Speaker nationally focusing on equity and access of African-Americans to algebra. Her professional presentations include the National Council of Supervisors of Mathematics, National Council of Teachers of Mathematics, California STEAM Symposium, California Mathematics Council, Georgia Council of Teachers of Mathematics, California STEAM Symposium, and ACSA: Women In Leadership.

Christina serves as the Equity, Access, and Empowerment Chairperson of the California Mathematics Council: Southern Section (CMCS). The committee is dedicated to designing and the implementation of dynamic resources to re-humanize mathematics for traditionally marginalized students and provide its CMCS members resources necessary to meet the needs of and reflect the diverse communities they serve.

Talk Number 2 Me: Mathematics and Mindfulness

What is school for? To educate? Do we draw out students' talents and passion for mathematics? Social-Emotional Intelligence is the key component to engendering formidable mathematical learning. Dynamic Mindfulness is a trauma-informed mindfulness program that strengthens students' identities as sense-makers and problem solvers. Let's examine how the TRU Framework and Emotional Intelligence will build powerful mathematical identities and master the Standards of Mathematical Practice.

**Name badges must be worn
at all times while attending the conference.
Badges are required for entry into the
sessions and the exhibit hall.**

We have made every attempt to provide adequate seating for participants at the conference. However, to ensure your safety and adhere to fire regulations, the number of participants allowed in each meeting room will be limited to the number of seats approved by the Fire Marshall. Anyone sitting on the floor or standing will be asked to leave the room. Please check the Program Matrix for the **seating capacity** of each room. All seats are available on a first-come, first-served basis.



Asilomar, Merrill Hall | 9:00-10:15

Robert Q. Berry — National Council of Teachers of Mathematics Math Practices

Catalyzing Change: Critical Conversations in Mathematics

NCTM formed three writing teams at the early childhood/elementary, middle school, and high school levels with the intent to initiate the critical conversations in school mathematics. The Catalyzing Change series focuses on four recommendations: (a) defining the purpose of school mathematics; (b) equitable structures; (c) equitable instruction; and (d) essential concepts. This session will initiate conversations using the recommendations from the three writing teams as the frame.



Asilomar, Merrill Hall | 10:45-noon

Deborah Loewenberg Ball — University of Michigan

(How) Can Mathematics Teaching Disrupt Racism and Oppression?

Historical and persistent marginalization and oppression permeate all aspects of contemporary life, including education. Institutional structures and exclusionary practices rooted in social and cultural status groups and identities preserve and reinforce racialized and gendered norms. Teaching at all levels has enormous potential to disrupt these patterns, but it has instead often reproduced inequality and reified injustice through the discretionary spaces that are inherent to teaching. These discretionary spaces enable teachers to adapt responsively to cultural contexts, communities, and students, but they also make classroom practice vulnerable to actions and decisions that perpetuate oppression. This talk will investigate how patterns—

particularly enacted patterns and signals of low expectations for marginalized students—are produced and reproduced, minute to minute, day to day, and week to week, inside of these discretionary spaces in teaching. We will explore how mathematics can be taught in ways that can change the nature of the experiences of students and affect their sense of identity, belonging, and success and will consider what it would take to make such instruction a reality inside of classrooms. *Co-presenter: Amber Willis*

Social Gatherings

What's a better way to get to know more about local CMC Affiliates than to mingle and network with other people from the affiliate groups?



Join us for appetizers and beverages!

CMC-North affiliates will be having a social gathering Saturday in Merrill Hall from 7:30-10:00pm. Come find out more about each affiliate in our section and how to stay connected with other math educators in your local area!

Saturday, 7:30 - 10:00 | Asilomar, Merrill Hall

CMC-North Local Affiliate Groups

- Math Council of California's Far North - CMCFN
- Mt Lassen Math Council - MLMC
- Northern Nevada Math Council - NVMC
- Sonoma County Math Council - SCMC
- Sacramento Area Math Educators - SAME
- Math Educators of Solano County - MESC
- San Francisco Math Teachers Association - SFMTA
- Alameda Contra Costa Math Educators - AC3ME
- Santa Clara Valley Math Association - SCVMA
- Monterey Bay Math Council - MBMC

Ignite! (April Goodman-Orcutt, emcee), and President's Party

Come join us at our President's Party, sponsored by CMC-North (appetizers and no-host bar), and the final Ignite! produced by Annie Fetter. What is Ignite? This fast-paced, fun, thought-provoking, high-energy series of 5-minute talks with 20 self-advancing slides by people with the guts to get onstage and talk about something they are passionate about!

Saturday, 7:30 - 10:00 | Asilomar, Merrill Hall

T-shirts and sweatshirts displaying this year's Asilomar Mathematics Conference logo will be available for purchase in Surf and Sand on Friday and Pacific Grove Middle School Gym on Saturday. Don't miss your opportunity to bring home a memento of your conference participation.



CMC-Hub will be open Saturday, 8:00am-5:00pm in Afterglow. Don't forget to stop by!

Top 10 reasons why you should stop by the Hub!

1. Relax by the fire
2. Find out what CMC can do for you
3. Play some really cool math games
4. Chat with other amazing CMC members
5. Learn about grants to help you teach math
6. Nominate someone special for a CMC award
7. Repeat visitors may come across snacks
8. Take a selfie in front of the CMC wall
9. Pick up some fabulous CMC Swag!
Who doesn't want that?
10. Make connections with your local affiliate!

BUS SERVICE will run between the Asilomar grounds and Pacific Grove Middle School on Friday from 5:30 - 9:30pm and Saturday from 7:15am - 6:00pm.



CMC-NORTH OFFICERS

President	Rita Nuntsch
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CONFERENCE VOLUNTEERS

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Monica Rock

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With special help from:

Jessica Balli, Patrick Callahan, Solana Lee and Dan Meyer

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Linda Goulet

Middle School Tech Coordinator

Grayson Fong

Onsite Registration

Jean Simutis

CMC Hub

Joan and Rick Easterday

Conference Program

Connie Anderson

CONFERENCE INFORMATION

Sessions

You will find three session types: Presentations, Interactive and Make-It, Take-It sessions.

Presentations (PRS)

Will be speaker-focused, but you may expect discussion, explorations and/or some activity.

Interactive Sessions (INT)

Provide for discussion and exploration.

Participants will be involved in activities and interaction with others.

Make-It, Take-It (MITI)

Make your own models for classroom projects and activities. Please join one of our scheduled sessions. Participation is limited to twenty-five. Advanced registration is not required.

Session Capacity/Seating

We have made every attempt to provide adequate seating for participants at the conference. However, to ensure your safety and adhere to fire regulations, the number of participants allowed in each meeting room will be limited to the number of seats approved by the Fire Marshall. Anyone sitting on the floor or standing will be asked to leave the room. Please check the Program Matrix (pages 11-13) for the seating capacity of each room. All seats are available on a first-come, first-served basis.

First Time at Asilomar?

Come to Triton, Friday between 4:00 and 6:00pm; or Saturday between 7:30 and 9:00am and PGMS, Room 6, for a 20-minute orientation session on how to navigate your first conference at Asilomar. We will show you all you need to know.

Exhibits

Some speakers have products as an integral part of their presentation. Also see the latest materials and textbooks from other companies.

Friday, PGMS, 6:00 - 7:30pm

Saturday, PGMS, 7:30am - 4:30pm

Parking

Since parking space is very limited, on-grounds parking is reserved for registrants housed on grounds. Others must park outside the main entrance to Asilomar or at the Middle School.

Disabled Services

Jitney service and white courtesy phones are available on Asilomar Grounds. Disabled access is available on the Asilomar grounds and at the Middle School.

Bus Service

Bus service will run between the Asilomar grounds and Pacific Grove Middle School on Friday from 5:30-9:30pm and on Saturday from 7:15am - 6:00pm.

Electronic devices

Out of respect for presenters and other participants, please silence or turn off electronic devices during sessions.

Program Changes

Although this book contains the latest information available as of the printing deadline, some last-minute changes are inevitable. We apologize for any inconvenience that may result, and we appreciate your understanding.

Refreshments

Coffee and tea are available during the conference at Merrill Hall, Fred Farr and Curlew on Friday and Saturday. Water will be in all the rooms on the grounds.

Lunch Options

There will be food available for purchase at the Middle School. From 8:00am till about 2:00pm, student organizations will be selling various snacks and refreshments. Coffee, sodas and water will be available, as well as sandwiches and pastries. Please support these local school groups.

Meal Tickets

Participants staying on-grounds receive a meal ticket with their housing, covering Friday dinner through Sunday lunch. For participants staying off-grounds a limited number of meal tickets will be available for purchase at the Asilomar front desk.

T-shirt and Sweatshirt Sales

T-shirts and sweatshirts displaying this year's Asilomar Mathematics Conference logo will be available for purchase in Surf and Sand on Friday and Pacific Grove Middle School Gym on Saturday. Don't miss your opportunity to bring home a memento of your conference participation.

Walking

It is one mile from Asilomar to Pacific Grove Middle School. A map of this area of Pacific Grove is provided on page 47.

Help Protect the Vegetation

Please stay on the paved paths that meander through the grounds or the boardwalks that take you on a delightful journey through the dunes. By keeping people off the vegetation, Asilomar is able to preserve the natural landscape for all to enjoy for many years to come. You might see some paths that look like walking trails, but if they are not paved, they are simple animal trails created by many hooves walking the same route through the grounds.

Thank you very much for your cooperation.



CMC-North | 2019 Mobile App

The CMC - N Conference App can be downloaded from the APP store or the Google Play store. The conference APP is under California Math Council.

The conference app will allow you to use your smart-phone or tablet onsite to easily:

- Access session details and create a personal schedule
- Rate and take notes on sessions
- Access sponsor and exhibitor details
- Receive news alerts
- View map of the exhibit hall layout
- Access social media
- Post tweets via Twitter – @CAMathCouncil #cmcmath

**Download
Conference
app!**

Conference & Speaker | Evaluations



Go to bit.ly/19ConEval to enter to win a **free** registration or **free** housing at next year's conference by completing the **Conference evaluation**.

Your feedback is important to us! Please take a moment to complete the **Speaker** evaluation at <http://bit.ly/AsilomarSpeakerEval>



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Hashtag CMCMATH



@CAMathCouncil



CALIFORNIA MATHEMATICS COUNCIL

how to use twitter



Connect to the best faculty lounge around.

If you don't already have a Twitter account, consider signing up for one. There is a thriving community of mathematics educators engaging in conversations that you might enjoy and could benefit from your contributions.

Keep your eye on the hashtag #cmcmath before, during, and after the conference to see what people are talking about and keep up with any announcements or special events. Stay connected to our math world through Twitter!



Join the conversation. Share some of the great things you do in your classroom and learn what others do in theirs. Keep the discussions you start here going long after the conference is over and the tweets have been posted.



Not ready to jump in? It's okay to just watch and listen in. There is a lot to consider and learn from the conversations and chats happening all the time. Read as much or as little as you like. It's ok.



Connect to others attending the conference. Grow your personal network by following presenters and the people you meet during the conference. Teaching is complex and we can do so much better together.



To get started:

1. Create an account.
2. Follow some people (We suggest @camathcouncil).
3. Check twitter.
4. Make some awesome new friends.

Max will tell you more: <http://bit.ly/tweetmemaybe>



@camathcouncil

Facility	8:00 - 9:00	9:30 - 10:30	11:00 - 12:00	1:30 - 3:00	3:30 - 5:00
FIRESIDE	Fred Farr Seats 80 Brad Fulton Teaching Math More Effectively 6-8 PRS 101	Mardi Gale Launching Tasks for Access and Attending to Diversity GI PRS 201 BT	Cecilio Dimas Re-humanizing Mathematics Instruction Using Re-engagement GI INT 301	Patrick Callahan 7 Ways to Make Great Mathematical Explanations GI INT 401 BT	Mike Flynn Powerful Math Moments: Why Certain Experiences Stand Out GI INT 501 BT
	Kilin Seats 54 Krystal Carter Incorporating Mechanical Engineering into the Math Classroom 6-8 INT 102 BT	Lizzy Hull Barnes Learning from Our Language Learners in San Francisco Ldrshp PRS 202 BT	Marc Petrie Integrating Multiple Activities Using Google Classroom 6-8 INT 302	Mia Buljan Problem Solving in TK-2: The Struggle is Real PK-2 PRS 402 BT	Sue Nichols International Space Station Microgravity: Mass vs Weight 6-8 INT 502 BT
	Oak Shelter Seats 32 Bernard Frost How to Survive Teaching Mathematics in 2019 and Beyond! GI PRS 104 BT	Ethan Weker Equity and Justice in the Math Classroom: A Practical Approach 8-12 PRS 204 BT	Matthew Engle Bringing Similarity to Light 6-8 INT 304 BT	Laura Orabi Making Problem Solving Meaningful 3-5 INT 404 BT	Jason Frand New Instructional Tools to Teach Word Problems 6-8 INT 504
	Evergreen Seats 32 Ben Freeburn Learning from Rehearsals of Mathematics Teaching Practices Tchr Ed PRS 105	Gail Burrill Six Strategies for Developing Understanding in Algebra 8-12 INT 205 BT	David Foster Why Your SBAC Scores are Flat and What to Do About It GI PRS 305	Shelley Krieger Structures and Strategies to Support Struggling Learners 6-8 PRS 405 BT	Susie Hakansson Incorporating Equity into the Lesson Study Process GI INT 505 BT
NORTH WOODS	Heather Seats 60 Mark Leitch Playful Mathematics Through Unsolved Problems 6-8 INT 103 BT	Ravin Pan Constructing a Teacher Candidate via a Practice-Based Tchr Ed INT 203 BT	Gloria Hurtado Journaling a Math Talk 6-8 PRS 303 BT	Ellen Byron Writing Better Math Explanations Using Success Criteria 8-12 INT 403	Ann Carlyle It Makes Sense! Using Number Paths and Number Lines PK-2 INT 503 BT
	Scripps Seats 33 Jennifer Clinkenbeard Gummy Bear Government: Discovering Equitable Representation 3-5 INT 106	Carol Langbort Spatial Visualization Activities: Tangrams and Pentominoes 3-5 INT 206 BT	Jeanne Ramos Math Content, Practices and Language: Make it Routine! 6-8 INT 306 BT	Victor Selby Diverse Means Universal: Math as the Language of Science 8-12 PRS 406 BT	Suzanne Damm Hands-on Conceptual Fraction Activities 3-5 INT 506 BT
	Acacia Seats 24 Deborah Meng Growth Mindset+Daily Math Routines= Equity and Access PK-2 PRS 107 BT	Anjali Jain Interdisciplinary Research in Statistics with Minitab 8-12 PRS 207 BT	Mark Goldstein Essentials to Get Struggling Middle-Schoolers Back on Track 6-8 PRS 307 BT	Connie Horgan Promoting Discourse in Middle School 6-8 INT 407 BT	Robert Vriesman Teaching Mathematics: An Intuitive Approach 8-12 INT 507 BT
	Toyon Seats 24 Martin Joyce Making Math Accessible with Anchor Charts 6-8 INT 108 BT	Brian Lundgren Fight the Plateau: Take Control of Your Personal PD GI PRS 208 BT	Annie Fetter Two Structures for Looking at Student Work 3-5 INT 308 BT	Randy Guzik Math History for Enhanced Learning and Cultural Appreciation GI PRS 408	Janene Ward Exploring Relational Thinking Through Counting Collections 3-5 INT 508 BT
VIEW CRESCENT	Marlin Seats 34 Julie Villeneuve The Struggle is Real 3-5 INT 109 BT	Joseph Lamb Notice and Wonder: A Culturally Responsive Routine PK-2 INT 209 BT	Richard Sgroi Math in Context: Advanced Algebra with Financial Applications 8-12 PRS 309 BT	Vicki Vierra Fair Shares: Fractions and Diverse Representations 3-5 INT 409 BT	Brigitte Lahme What's a Pink Tax? Modeling Math that Impacts Our Lives 6-8 INT 509 BT
	Curlew Seats 34 Nolan Fossum Put the Power of Discovering Conics in the Students' Hands 8-12 INT 110 BT	Alethea Vazquez Twitter: What's Everyone #chirping About? Tchr Ed INT 210	Patty Morrison Integrating Literature into Math Pre-k to First PK-2 PRS 310 BT	Kathryn Dees Connecting Mathematics Ideas Using Representations GI INT 410 BT	Jillian Kearney Coding into the Future: Projects for Middle School Math 6-8 MITI 510 BT
	Sanderling Seats 24 Geetha Lakshminarayanan Using Classroom Video for Teacher Coaching Ldrshp PRS 111	Alissa Fong What Do I Say Now?: Responsive Facilitation for Small Groups 8-12 PRS 211 BT	Valerie Koehler Gamify Your Math Class with Digital Breakouts 6-8 MITI 311 BT	Carolee Hurtado Driving While Brown: Using Mathematics to Plan a Rational Trip 6-8 INT 411 BT	Craig Schneider Routines and Games: Promoting Language and Reasoning for All PK-2 INT 511 BT
DOLPHIN	Dolphin Seats 24 Babette Benken Using a Math-focused Tech Course to Support Teacher Learning Tchr Ed PRS 112 BT	Patricia Dienz Supporting English Learners in Secondary Mathematics 8-12 PRS 212 BT	Duane Habecker Using Math Language Routines for Students with Disabilities GI INT 312 BT	Sarah Brewer Number Talks: Fractions, Decimals, and Percentages 3-5 PRS 412 BT	Courtney Ortega Access and Agency: Making the Most of Math Content Routines 6-8 INT 512 BT

All Sanderling Sessions moved to the Chapel



Facility	8:00 - 9:00	9:30 - 10:30	11:00 - 12:00	1:30 - 3:00	3:30 - 5:00	
SEA GALAXY	Triton Seats 24	Alisa Brown Problem Solving Cycle: A Vehicle for Many Drivers of Equity GI INT 115 BT Moved to Nautilus W		Tracy Sola Re-Engagement for our Youngest Learners! PK-2 INT 315 BT	Rebecca Ambrose CGI informed Geometry Instruction: #s + shapes = Thinking 3-5 INT 415	Nerissa Gerodias Transformations and Desmos for Culturally Diverse Classrooms 8-12 INT 515 BT
	Nautilus E Seats 24	Dennis Kombe Nudging Students' Thinking in Elementary Math 3-5 INT 116 BT	Whitney McMurtry A Differentiated Test: Encouraging Student Voice and Choice 6-8 PRS 216 BT	Sean Nank Student Discourse: How Do We Really Make it Meaningful? 8-12 INT 316 BT	Michael Stern March Madness: A Mathematical Competition 6-8 INT 416 BT	Joanne Becker Mathematical Modeling with Desmos 8-12 INT 516 BT Cancelled
	Nautilus W Seats 24	Newcomer Orientation Moved to Triton	Peggy McLean Connecting Multiplication and Division Concepts 3-5 INT 217 BT	Tim Hebert Reasons for Routine-ing: Better Learning for More Learners GI INT 317 BT	Timothy Weekes Decolonizing the Mathematical Mind: CRP and Mathematics 8-12 INT 417 BT	Berkeley Everett Hack the Hidden Message PK-2 INT 517 BT
MERRILL H.	Merrill Hall Seats 500	Eli Luberoff Creating Interesting Ways for Students to be Right and Wrong GI PRS 118	Dan Meyer Designing for Belonging GI PRS 218 BT	Megan Taylor Asilomar 2.0: What Do We Want to Be? GI INT 318	Michael Fenton The Desmos Dashboard: A Love Letter to the Five Practices GI INT 418	Ed Campos Bootstrap: Computer Science and Algebra 6-8 INT 518 BT

HOW TO READ THE MATRIX

The matrix also reflects site, room, day and time of session. Refer to the alpha section for more information about each session. Site map on back of program.

speaker —

title of presentation —

target audience: —

GI: general interest

K-C: grade level

Ldrshp: Teacher Leaders

TchEd: Teacher Education

Alicia Alberts

Teaching Math Concepts

3-8 | INT | 748 | BT

STRAND

BT: interest to beginning and new teachers

— session number

— strands focused on special interest

— session type (see page 8 for more information)



CMC-North would like to express its sincere gratitude to:

The Asilomar Program Committee – for preparing an enriching program with speakers who are experts in their field, a variety of presentations to energize and expand the skills and talents of each mathematics educator, and a feeling of renewed enthusiasm for teaching.

The Speakers – for providing stimulating presentations and sharing new ideas, teaching methods, and tools. We acknowledge the many hours of preparation they have spent to provide you with valuable handouts and with this opportunity for growth and networking.

The Asilomar Committee Chairs and Volunteers – for providing you with the best support to help make your experience at this year’s conference go smoothly through their help with equipment, signs, logistics, and more.

The Presiders and Pre-Service Teacher Volunteers – for providing speakers with a warm welcome, an introduction, and a hearty thank you at the end of each session. Presiders are the ones that keep speakers coming back to Asilomar.

The Exhibitors – for contributing to your conference experience by bringing new curriculum materials, teaching ideas, technology, products, and free demonstrations to you and your fellow conference goers.

The Staffs of Pacific Grove Middle School and the Asilomar Conference Grounds—for welcoming conference participants to your sites and for your support in making our conference a great success.

Thank You

Room	8:00 - 9:00	9:30 - 10:30	11:00 - 12:00	1:30 - 3:00	3:30 - 5:00
Room 1 Seats 30	Jamie Phillips Collaborative and Differentiated Routines PK-2 INT 131 BT	Carl Veater What Data Drives Improvement? Let's Focus on the Right Stuff GI PRS 231 BT	Amanda Fox Math = les mathématiques = ? 3-5 PRS 331 BT	Molly Daley Mathematizing Spaces: Making our Schools Math Curious Places PK-2 INT 431 BT	Lupe Zamora Promoting Group Work for Increasing Diverse Student Success 8-12 INT 531 BT
Room 4 Seats 30	Lucy Rodriguez How to Teach Standards-Based Lessons for Social Justice 6-8 PRS 133 BT		Deborah Ford-Salyer Culture + Books + Math = Literacy for All GI INT 333 BT	Michelle Cody Luis, Jin and Ebony? Creating Real Culturally Relevant Math 6-8 INT 433 BT	Chrissy Newell See it, Move it, Grasp it: Math with Virtual Manipulatives PK-2 INT 533 BT
Room 5 Seats 30	Kimberly Morrow-Leong Mathematizing Problems that Matter to Your Students GI PRS 134 BT	Dennis Mulhearn Exciting, Effective Problems to Teach Area in Grades 3-5 3-5 INT 234 BT	Patty Low Fractions: A Gatekeeper to Algebra 3-5 INT 334 BT	Chris Shore Clothesline Math: Statistics on the Open Number Line 8-12 INT 434 BT	Isha Jain Project: Mathematics through Settlers of Catan! 6-8 INT 534 BT
Room 6 Seats 30	Tanya La Mar Prioritizing Math Practices In Heterogeneous Classrooms 8-12 PRS 135 BT	Ralph Connelly Making Minutes Matter 6-8 INT 235 BT	Mary Kelley Digitizing Math in the K-2 Classroom PK-2 PRS 335 BT CANCELLED	Megan Sulsberger STEM-ulating Activities for People and the Planet 6-8 INT 435 BT	Francesca Reinhard Reading and Writing and Math. Oh My! 6-8 INT 535 BT
Room 7 Seats 30	Chase Orton Demystifying Calculus for K-8 Teachers 3-5 INT 136 BT	Mary Raygoza Using Statistics to Explore Racism and Racial Justice 8-12 INT 236 BT	Tammy Schultz Encourage, Honor and Investigate Student-Generated Questions PK-2 PRS 336 BT	Maria Zavala Problem Posing: Shifting Power from Teachers to Students GI INT 436 BT	Karl Schaffer How Many Ways to Shake Hands: Counting Movement Sequences GI INT 536 BT
Room 12 Seats 30	Kayce Mastrup The Power of Reflective Feedback and Realtime Support 3-5 INT 139	Matt Wallace Using Mistakes for Learning's Sake GI PRS 239 BT	Henri Piccotto Lessons from Lew 8-12 INT 339 BT	Henri Piccotto Connect the Dots! Geoboards Problems for Ages 11 to 99 GI INT 439 BT	Daniel Rocha You Do, We'll Discuss, I'll Connect 6-8 INT 539 BT
Room 13 Seats 30	Gary Eisenberg Singing, Dancing, and Playing Through K-3 Mathematics PK-2 INT 140 BT		Ivan Cheng How to Raise Test Scores Without "Teaching to the Test" 8-12 PRS 340 BT	Chuck Biehl Computational Geometry: A New Culture of Problem Solvers 8-12 INT 440 BT	Christine Roberts A Continuous Improvement Network to Empower All Learners Ldrshp PRS 540
Room 21 Seats 30	Jennifer Hagman The Mathematical Art of Storytelling 3-5 INT 141 BT Moved to Room 24	Isabel Garcia Grading for Equity: Proficiency-Based System for All 8-12 INT 241 BT Moved to Room 24	Travis Bower Segment: Draw, Color and Play 8-12 INT 341 BT Moved to Room 6	Barbara Post Using Manipulatives to Deepen Understanding 6-8 INT 441 BT Moved to Room 33	Peg Cagle Leveraging Artifacts of Student Thinking 8-12 INT 541 BT Moved to Asilomar Toyon
Room 22 Seats 30	Stephen Arndt Support Meaningful Engagement With Instructional Routines 6-8 INT 142 BT	Sandhya Raman Co-Teaching in a Culturally Diverse Math Class 6-8 INT 242 BT	Barbara Novelli Helping Students Make Important Connections in Number Sense PK-2 INT 342 BT	Diane Resek What Should You Do When Someone Double Dares You? 8-12 INT 442 BT	Chris Luzniak Up for Debate! An Introduction to Debate Routines in Math GI INT 542 BT
Room 23 Seats 30	Kathy Henderson Do You Desmos? Dynamic Geometry Tools for Your Classroom GI INT 158 BT	Flor Perez Using Problems of the Week to Expand Student Thinking 8-12 INT 258	Kristen Acosta Keep Moving Forward: Raising Our Scores by 10% GI PRS 358	Shannon McCaw Bridging the MS Math Equity Gap through Collaboration 6-8 INT 458	Carol Treglio Analyze Assessments to Illuminate Strengths 8-12 INT 558 BT
Room 24 Seats 30		Kyndall Brown College Access through the Science (CADS) 8-12 INT 243 CANCELLED	Jessica Balli Do I Reteach or Move On? A 3rd Choice: Re-Engagement Lessons 6-8 INT 343	Jose Franco Supporting English Learners in Mathematics K-5 Tchr Ed PRS 443 BT	Siva Heiman Do You Have These 2 Questions? PK-2 INT 543 BT
Room 25 Seats 30	Kathleen Jalalpour Teaching Word Problems GI INT 144 BT	Emiliano Gomez Equitable Placement and Support: Tools and Recommendations GI PRS 244 BT	Jennifer Graziano Senior Year Math Courses: Supporting Student Success 8-12 PRS 344	Avery Pickford Giving Grades When You Don't Believe in Grades 8-12 INT 444 BT	Allison Krasnow Rooting Math Intervention in Sense-Making 6-8 INT 544 BT



Room	8:00 - 9:00	9:30 - 10:30	11:00 - 12:00	1:30 - 3:00	3:30 - 5:00
Room 26 Seats 30	Judy Kysh Diversity Requires Alternative Forms of Formative Assessment 8-12 INT 145 BT	Angela Knotts I Need to See It: Classroom Video Cases in Teacher PD Ldrshp INT 245	Risa Wolfson Mathematical Games and Projects that Celebrate Diversity 6-8 INT 345 BT	David Mattoon Context and Manipulative for Equity in Expressions and Equations 6-8 INT 445 BT	Sara Moore Multiplication Isn't Commutative: Lessons from the Sandbox 3-5 INT 545
Room 27 Seats 30	Johnnie Wilson Difference as a Resource to Math Teaching and Learning GI PRS 146 BT	Gina Wei Opportunities to Identify: Teaching for Dignity in Math 8-12 INT 246 BT	Mark Koester Connecting Algebra and Geometry through Historical Texts 8-12 INT 346 BT	Greisy Winicki Landman Geoboards as a Medium to Uncover Hidden Connections 8-12 INT 446 BT	Breedeen Pickford-Murray Mathematics of Democracy: A Math and Civics Immersive Class 8-12 INT 546
Room 28 Seats 30	Angela Torres Supporting Teacher Leadership with an Equity Lens Ldrshp PRS 147	Laila Nur There's Greatness In You GI PRS 247 BT	Patricia Dickenson Connecting Math and Social Emotional Learning 3-5 MITI 347 BT	Sophia Stier Rethinking the Math Game Through Serious Play 3-5 INT 447 BT	Mary Davis Real Classrooms with Real Opportunities for Shared Learning GI INT 547 BT
Room 29 Seats 30	Daniel De La Vega Teacher Clarity with Learning Intentions & Success Criteria 8-12 INT 148 BT	Marcey Winawer Building Community in the Mathematics Classroom 8-12 INT 248 BT	Tom Beatini Engaging Activities That Emphasize the FUN in FUNctions 8-12 INT 348 BT	Amy Youngblood Writing Their Way to Understanding GI INT 448 BT	Rick Barlow Moving From Cultural Compliance Towards Cultural Relevance 8-12 INT 548 BT
Room 32 Seats 30	Robin Doherty Journaling Math Talks 6-8 INT 150 BT	Daniel Ryan Engaging Struggling Math Students with Coding and Robotics GI INT 250	Nicholas Chan When High School Students Can't Divide 8-12 PRS 350 BT	Masha Albrecht Collaboratively Designed Projects as Authentic Assessment 8-12 INT 450 BT	Marc Roth Pie, So-so, and Goose and Pigeon-hole Puzzles 6-8 INT 550 BT
Room 33 Seats 30	Nova Katz Building Concrete Visual Patterns: One Block at a Time! GI INT 151 BT	Jeremy MacMahon Changing Math Learning Trajectories of Under-served Students 8-12 INT 251 BT	Toni Allen A Vehicle to Grow and Reculture Teacher Leadership GI INT 351		Harshil Parikh Modeling, Functions, and Statistics Pop with Real-World Data 8-12 INT 551 BT
Room 36 Seats 30	Gloria Weinberg My Students Won't Talk Math, Now What? 3-5 PRS 154 BT	Keely Machmer-Wessels Practicing the Five Practices 6-8 INT 254	Maria McClain From One to Infinity: Switched to Room 37 Riemann Sum 8-12 INT 354 BT	Jenny McConnell Honey, I Blew Up the... 6-8 INT 454 BT	Matthew Taylor Reflections on the Beautiful Journey: Slow Down to Go Fast 8-12 INT 554 BT
Room 37 Seats 30	Maria Lourdes Galendez MRWC: Building Up High School Students Number Sense 8-12 INT 155 BT	Jillian Green Cryptography For Students Around the World 8-12 PRS 255 BT	Ivy Kong Bringing Equity and Switched to Room 36 You Can Make 6-8 INT 355 BT		Erica Burnision Value ALL Voices GI INT 555 BT
Room 38 Seats 30	Elmano Costa Embracing Linguistic Diversity: Challenging but Possible 3-5 PRS 156 BT	Andrea Wood Let's Give them Something to Talk About 3-5 INT 256 BT	Lyra Hua Building Agency: Helping Students Deal with Math Anxiety 8-12 PRS 356 BT	Tom Reardon Mathematically Model AI Gore's Climate Change Data 8-12 INT 456 BT	Tim Erickson Opening a Door to Data Science: Exploring Income Inequality 8-12 INT 556 BT
Room 39 Seats 30	Anne Schwartz Dismantling Systems of Inequality in Our Classrooms GI INT 157 CANCELLED	Jen Bourque Ancient Number System 3-5 INT 257 BT	Federico Chialvo Liberating Mathematics Ldrshp PRS 357	Jon Southam Moving and Talking with Trigonometry and Logarithms 8-12 INT 457 BT	Matthew Kim From Paper to Pixels: How to Desmo-fy Your Math Lessons 8-12 PRS 557 BT
Library Seats 49	Rhonda Davis OMG! Math Graphic Organizes! 3-5 MITI 160 BT	Jessika Tate Team Projects: A New Angle for Geometry Review 8-12 MITI 260 BT	Traci Jackson Want Productive Math Groups? The Writing's on the Wall 8-12 INT 360 BT	Char Moffit Children's Literature as a Tool in Mathematics Learning PK-2 MITI 460 BT	Lisa Babinet An Artistic Approach to Conic Sections 8-12 MITI 560 BT
Library Seats 49				Roberta Newton Counting is More Than 1,2,3 PK-2 MITI 460 BT	Al Mendle Creativity and Elementary Math Are Not Mutually Exclusive 3-5 MITI 560 BT

Out of respect for presenters and other participants, please silence or turn off electronic devices during sessions.

Acosta

Acosta, Kristen — West Covina USD**Keep Moving Forward: Raising Our Scores by 10%**

One Title 1 elementary school committed to moving students' math knowledge forward and it worked! With a custom built intervention program that infused excitement and conversations, we surpassed our expectations and raised our scores by 10%! It was our intention to build our students' confidence in math. With low floor/high ceiling routines that were implemented with every student on our campus, each subgroup's number increased.

GI | PRS | 358 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 23

Co-presenter: Stacy Zagurski

Albrecht, Masha — Berkeley HS**Collaboratively Designed Projects as Authentic Assessment**

Four math teachers from Berkeley High will share projects they have written together. The presenters will share the projects, student work from grades 9-11, and describe their process of designing the lessons collaboratively. They will argue that assessments of this type improve community, encourage creativity, and raise mathematical rigor. Participants will leave with ready-to-use project descriptions and rubrics.

8-12 | INT | 450 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 32 | BT

Co-presenters: Dan Plonsey, Ashley Daly, Laura Gorrin

Allen, Toni — San Francisco Unified SD**A Vehicle to Grow and Reculture Teacher Leadership**

Building Agency, Ownership, and Identity in Teacher Leadership is challenging. Every school site is unique but the quest for powerful, equitable classrooms is not. SFUSD, in partnership with Stanford University, uses the Problem Solving Cycle (PSC) to homegrow teacher leaders. Learn about and experience PSC structures that develop the authentic collaboration, agency and ownership that prepares teachers to design and facilitate experiences for their own diverse adult learning communities.

GI | INT | 351 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 33

Co-presenter: Alissa Fong

Ambrose, Rebecca — University of California-Davis**CGI informed Geometry Instruction: #s + Shapes = Thinking**

Cognitively Guided Instruction (CGI) has helped many teachers to capitalize on the diverse thinking in their classrooms to help ALL children grow. Using a CGI approach, we will examine the different levels of thinking children use when they analyze 3D shapes and find their volumes. We will explore various geometry and measurement activities that foster creativity and communication and consider how to strategically feature student work when orchestrating discussion to advance children's thinking.

3-5 | INT | 415 | Saturday, 1:30 - 3:00 | Asilomar, Triton

Co-presenters: Hawanya Smith and Erica Burnison

Arndt, Stephen — Sacramento City Unified SD**Support Meaningful Engagement With Instructional Routines**

Come experience purposefully designed instructional routines and examine how they support all students in meaningful engagement with mathematical concepts. Build your capacity to: Engineer opportunities for student discourse that employ culturally responsive social talk structures; Elicit and make use of student thinking; and Empower students to build their sense of agency, authority, and identity.

6-8 | INT | 142 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 22 | BT

Co-presenter: Jennifer Graziano

Becker

Babinet, Lisa — Waldorf School of the Peninsula**An Artistic Approach to Conic Sections**

In this session, participants will explore ways to construct conic sections, as the curve of symmetry between a circle and a point inside the circle, an infinitely large circle and a point, and a circle and a point outside the circle, revealing how the ellipse, parabola and hyperbola relate to each other. Participants will also practice paper-folding to construct the three conics, using a line-wise definition of the conics.

8-12 | MITI | 560 | Saturday, 3:30 - 5:00 | PGMidS Library A | BT

Balli, Jessica — Callahan Consulting**Do I Reteach or Move On? A 3rd Choice: Re-Engagement Lessons**

Teachers often feel pressure to cover curriculum, even if students aren't ready to move on. Alternatively, teachers can opt to reteach material, even though some students have already shown mastery. There must be another way! Come learn how to design lessons that re-engage all students with the content by having them analyze and reflect on student work. We will share new, updated activities and ideas that work for upper elementary through high school math classrooms.

6-8 | INT | 343 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 24

Co-presenter: Solana Ray

Barlow, Rick — Fremont HS**Moving From Cultural Compliance Towards Cultural Relevance**

As teachers of English Language Learners, we strive to create a classroom that is inclusive for all students. Yet, we still work within a system that is influenced by traditional educational practices that maintain systems of power. In this session, we will share how we worked to disrupt the status quo by challenging those traditional practices. Teachers will be introduced to a framework for culturally responsive teaching and will apply their learning through discussions and hands-on activities.

8-12 | INT | 548 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 29 | BT

Co-presenter: Micaela Kaye

Beatini, Tom — Union City Public Schools**Engaging Activities That Emphasize the FUN in FUNctions**

Participants will be provided with classroom-ready hands-on lessons that enable students to investigate functional behavior. Using technology, we will discover FUN ways to make sense of transformations. Emphasis will be placed on high-level cognitive tasks that pose purposeful questions. These tasks will help students develop essential understandings of properties of families of functions while building procedural fluency and extending these properties to different families.

8-12 | INT | 348 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 29 | BT

Becker, Joanne — San Jose State Univ.**Mathematical Modeling with Functions**

In this session participants will experience the whole process of mathematical modeling in a real-life situation that might face many high school and college students: determining the best buy. Participants will solve the problem themselves in groups, present their solutions and their decision about which pizza is best to the whole group, then critique sample student work as time permits. Participants will need a graphing calculator or a device with graphing software such as Desmos.

8-12 | INT | 516 | Saturday, 3:30 - 5:00 | Asilomar, Nautilus East | BT

Benken, Babette — California State University, Long Beach
Using a Math-focused Tech Course to Support Teacher Learning

We share details of a math-specific and math-focused technology course that develops pre/in-service teachers' understandings of how to utilize and critique free, online tools to help K-12 students learn math. This course satisfies the CA Level I Tech Standard and includes scaffolded lessons through which teachers: review essential math content; develop tech-supported K-12 lessons that expand access and interest for their current/future students; and, build a webpage for their expanding resources.

Tchr Ed | PRS | 112 | Saturday, 8:00 - 9:00 | Asilomar, Dolphin | BT
 Co-presenter: Mr. Joe DiOrio

Biehl, Chuck — L Charles (Chuck) Biehl
Computational Geometry: A New Culture of Problem Solvers

Good problems are not what they used to be. Technology is used everywhere. Computational Geometry provides a platform whose relevance is unmistakable. Cell phone towers, housing developments, security camera, etc. are the 21st century contexts, and projects from computer science are available to students with only two years of high school math. This workshop provides context and ideas for classroom activities from a wide variety of fields, specifically identified for relevance and interest.

8-12 | INT | 440 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 13 | BT

Bourque, Jen — Synapse School
Ancient Number System

This session will introduce participants to three ancient number systems: Babylonian, Maya, and Egyptian. By celebrating the cultural diversity of number systems, students can make strong connections and apply what they have learned to the creation of their own unique number systems. Participants will examine how connections to different bases, place value, and geometry can be made through the integration of history, identity, and mathematics.

3-5 | INT | 257 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 39 | BT
 Co-presenter: Federico Chialvo

Bower, Travis — Dos Pueblos HS
Segment: Draw, Command, Program


As students learn to find midpoint, distance and slope of a segment, this is a great opportunity to supplement their understanding with tech. We will use the Nspire app on the iPad (or handheld) to draw the segment with a finger and find MDS. Next we will use a Notes page with formulas to find MDS. Finally we will code. Tech/coding is a stairway for equity and a doorway for opportunity. As an application/extension, students can explore/validate the properties of diagonals of quadrilaterals.

8-12 | INT | 341 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 21Lab | BT

Brewer, Sarah — Math Solutions
Number Talks: Fractions, Decimals, and Percentages

This session focuses on number talks that build conceptual understanding of fractions, decimals, and percentages. Participants learn how to use this routine to focus on the essential understandings of rational numbers and develop a robust fluency.

3-5 | PRS | 412 | Saturday, 1:30 - 3:00 | Asilomar, Dolphin | BT
 Co-presenter: Nikki LaLonde



BUS SERVICE will run between the Asilomar grounds and Pacific Grove Middle School on Friday from 5:30 - 9:30pm and Saturday from 7:15am - 6:00pm.

Brown, Alisa
Problem Solving Cycle: A Vehicle for Many Drivers of Equity

Experience an SFUSD math professional learning activity built around a combination of Deborah Loewenberg Ball's work of Discretionary Spaces, video based discussion from Stanford University, as well as pieces of Complex Instruction's video club to have conversations about strengths, race, and power in classroom instruction. We will also share how the Problem Solving Cycle structure has integrated many other structures and pedagogies in service of equitable math instruction.

GI | INT | 115 | Saturday, 8:00 - 9:00 | Asilomar, Triton | BT
 Co-presenters: Toni Allen, Sarah Gleason

Brown, Kyndall — California Mathematics Project
College Access through Data Science (CADS)

This session will share the findings from the College Access through Data Science (CADS) grant, a CDE funded project focused on the Introduction to Data Science (IDS) course, implemented in an LA area urban school district in partnership with UCLA. Attendees will engage in activities from the IDS course. A laptop is required.

8-12 | INT | 243 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 24
 Co-presenter: Suyen Machado

Buljan, Mia — Hayward Unified SD
Problem Solving in TK-2: The Struggle is Real

We shouldn't withhold problems until children know how to solve them, just as we don't withhold books until they know how to read. Learn strategies and routines to support problem solving as students develop understandings for content and Math Practices. Student work and video clips from a Title 1 (95% free and reduced lunch) school with 70% ELL students, highlight how young children approach problem solving using rich, non-routine problems.

PK-2 | PRS | 402 | Saturday, 1:30 - 3:00 | Asilomar, Kiln | BT

Burnsion, Erica — Solano COE
Value ALL Voices

Want to incorporate more mathematical discussion into your class, but worried that some students might dominate and others will disengage? Join us to find out what worked and didn't work when we designed discourse around students with low confidence in math. We will share strategies for elevating student voice to help them see that they DO have valuable and important ideas in math worth sharing.

GI | INT | 555 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 37 | BT
 Co-presenter: Renee Neal

Stop by the **CMC-Hub** in Afterglow, Saturday, between 8:00-5:00 and **pick up your swag**, and **your chance to win a \$250 voucher** for any one of our three conferences!

HOW TO READ SPEAKER LIST

↓ speaker

↓ position

↓ affiliation

Alberts, Alicia — Professor, UC San Francisco

Teaching Math Concepts ← title of presentation

How to teach students to add. ← description of presentation

3-8 | INT | 748 | Saturday, 8:00 - 9:30 | PG High School, Curlew | BT

↑ presentation type

↑ session number

↑ day

↑ time

↑ site

↑ room

↑ special interest to beginning teachers

↑ grade level/target audience

Burrill, Gail — Michigan State University

Six Strategies for Developing Understanding in Algebra

Developing conceptual understanding and procedural fluency is central to our work as teachers. Too often students can “do” in the moment but later cannot recall which procedure to use. Developing robust concept images and analyzing the advantages and disadvantages of different ways of thinking about the mathematics can facilitate both flexible procedural knowledge and deep understanding of ideas such as linearity or solving an equation.

8-12 | INT | 205 | Saturday, 9:30 - 10:30 | Asilomar, Evergreen | BT

Byron, Ellen — Elk Grove Unified SD

Writing Better Math Explanations Using Success Criteria

This instructional strategy provides every student clear expectations to improve individual mathematical responses to any prompt. We will explore the characteristics of a high quality explanation, strategies for getting students started in their writing, and methods for helping students make improvements to their own writings. Teachers will experience the scaffolded learning progression in this session and leave with specific tasks and resources to use in their own classes right away.

8-12 | INT | 403 | Saturday, 1:30 - 3:00 | Asilomar, Heather

Co-presenter: Nick Freathy

Cagle, Peg — Reseda HS, Los Angeles Unified SD

Leveraging Artifacts of Student Thinking

Students produce tangible artifacts from worksheets to group posters on a daily basis. Even when tied to instructional goals, artifacts are rarely leveraged to capitalize on their value beyond evidence of student time/effort. Explore more effective use of artifacts to inform teachers’ practice; benefit individual students as tools for metacognitive reflection and maps of learning; and serve as public invitation/support for the entire classroom community including previously disengaged students.

8-12 | INT | 541 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 21Lab | BT

Callahan, Patrick — Callahan Consulting

7 Ways to Make Great Mathematical Explanations

Businesses, colleges, and everyday life demand that we be able to communicate, explain, and justify our mathematical reasoning. But what makes an explanation good or effective? And how do you help support students to become better mathematical communicators? Come find out!

GI | INT | 401 | Saturday, 1:30 - 3:00 | Asilomar, Fred Farr Forum | BT

Campos, Ed — Brown Univ.

Bootstrap: Computer Science and Algebra

Integrate Computer Science into your Math courses with Bootstrap. Teach your students to code in a cloud based environment, to program a videogame using Algebra(order of operations, linear equations, piecewise functions, compound inequalities, and distance formula). Attendees will leave with resources and ideas on how to integrate certain modules of the free Bootstrap program into their existing math curriculum.

6-8 | INT | 518 | Saturday, 3:30 - 5:00 | Asilomar, Merrill Hall | BT

T-shirts & sweatshirts displaying this year’s Asilomar Mathematics Conference logo will be available for purchase in Surf and Sand on Friday and Pacific Grove Middle School Gym on Saturday. Don’t miss your opportunity to bring home a memento of your conference participation.



Carlyle, Ann — U.C.S.B.

It Makes Sense! Using Number Paths and Number Lines

These lessons and games show how the use of number paths and number lines can be flexibly used by students to solve problems and scaffold or document their thinking. Simple models can support students as they solve computation and comparison problems. The arrangement of left to right is part of western culture, displayed on rulers, calendars, library bookshelves, floor signals above elevator doors, computer keyboards, and so on. These becomes a durable mental representation.

PK-2 | INT | 503 | Saturday, 3:30 - 5:00 | Asilomar, Heather | BT

Carter, Krystal — Hoover MS

Incorporating Mechanical Engineering into the Math Classroom

Learn the first steps of integrating mechanical engineering into your curriculum: (1) engage in an engineering challenge, developed in collaboration with San Jose’s Tech Museum of Innovation, where you team up to design a rooftop water catchment system; (2) see how the challenge was developed into a standards-based math project and examples of student work; (3) discuss ways to incorporate and develop similar challenges in your classroom.

6-8 | INT | 102 | Saturday, 8:00 - 9:00 | Asilomar, Kiln | BT

Chan, Nicholas — San Francisco International HS

When High School Students Can't Divide

How do we support students with gaps in their mathematical knowledge? How do we engage reluctant learners and build on what they know? Our high school serves students with a range of mathematical backgrounds, including some who left school before 5th grade. One of our interventions was creating a new course to support them. We’ll explore decisions made in designing the course, examine structures and curriculum used to teach the course and unpack questions that we’re pondering as we move forward.

8-12 | PRS | 350 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 32 | BT

Cheng, Ivan — CSU Northridge

How to Raise Test Scores Without “Teaching to the Test”

Let’s face it, teachers are constantly under pressure to raise test scores AND teach for understanding. So what is it that students really need in order to succeed in math (and get higher SBAC scores)? We will show how we did it and share some ready-to-use sample activities that can help ALL students develop, solidify, and formalize their understanding of concepts and procedures. Most important, we helped students develop a growth mindset in learning math.

8-12 | PRS | 340 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 13 | BT

Co-presenters: Angelica Morfin, Andrea Manzo-Ustariz

Chialvo, Federico — Synapse School

Liberating Mathematics

Whose mathematics are we teaching in our schools? If we want kids to see themselves in and form meaningful connections to mathematics, we must offer experiences that embrace diversity in all its forms. Participants will learn multiple ways to increase inclusion, equity, and access program-wide by integrating elements such as elective math circles and culturally responsive 3-Act lessons.

Ldrshp | PRS | 357 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 39

Co-presenter: Jen Bourque

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Clinkenbeard, Jennifer — California State Univ. Monterey Bay
Gummy Bear Government: Discovering Equitable Representation

Representation is an essential issue in statistical sampling. Biased samples can lead to inequitable situations when they are used as a basis for reporting results or making decisions. In this session, participants tackle issues of sampling, representation, and variability—with Gummy Bears as their constituents. This activity offers the opportunity to create a rich classroom experience in which mathematics serves as a link among disciplines. Classroom ready handouts provided.

3-5 | INT | 106 | Saturday, 8:00 - 9:00 | Asilomar, Scripps Conference
 Co-presenter: Dr. Martin Bonsangue

Cody, Michelle — San Francisco Unified SD
Luis, Jin and Ebony? Creating Real Culturally Relevant Math

Most attempts of culturally relevant mathematics =SAME problems with different names. But students are not seeing themselves inside of the math. We have collaborated to create and implement several standards-based social justice math lessons for students of color in SF. These lessons increased student participation, used grade-level concepts/skills with relatable social inequities to drive student learning. Educators will participate, create and analyze for true cultural understanding.

6-8 | INT | 433 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 4 | BT
 Co-presenter: Vriana Kempster

Connelly, Ralph — Fac. of Ed. Brock Univ.
Making Minutes Matter

It is often difficult to find activities that are flexible enough so learners at different levels can experience success with them. This session will provide teachers with a variety of problem solving, mathematical reasoning, and number sense ideas that grab students' attention, only take a short amount of time and little preparation, and make effective use of those vital first few minutes of your math class.

6-8 | INT | 235 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 6 | BT

Costa, Elmano — Cal. St. University Stanislaus
Embracing Linguistic Diversity: Challenging but Possible

Can we embrace linguistic diversity in math lessons? Can we empower ELs to tackle the standards of practice? Can teachers have the same rigor in math lessons for EL students? Yes we can! This workshop will show you how to plan and deliver lessons to make the standards of mathematical practice a reality in every classroom. The session begins by presenting features of effective lesson design for ELs and then models how to implement them in a math lesson taught in Portuguese.

3-5 | PRS | 156 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 38 | BT

Daley, Molly — ESD112
Mathematizing Spaces: Making our Schools Math Curious Places

Math is all around us, but often goes unnoticed. How can we use playful provocations in and around our schools to fuel math thinking and talk among students and adults? This session will demonstrate simple strategies teachers and parents can use to invite more learners to do more math in more places. We will explore how to notice, engage, and prompt mathematical moments. Participants will access free resources designed to encourage children to notice and talk about math in their environment.

PK-2 | INT | 431 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 1 | BT

**Name badges must be worn
 at all times while attending the conference.
 Badges are required for entry into the
 sessions and the exhibit hall.**

Damm, Suzanne — CSUMB
Hands-on Conceptual Fraction Activities

Come explore and play with fractions! We will explore fractions from basic concepts through fraction operations. Manipulatives are a necessity when introducing fraction topics and operations. As research has indicated, using concrete materials along with metacognitive prompts by teachers is critical to internalizing complex cognitive problem solving skills.

3-5 | INT | 506 | Saturday, 3:30 - 5:00 | Asilomar, Scripps Conference | BT

Davis, Mary — The Charles A. Dana Center, Univ. of Texas at Austin
Real Classrooms with Real Opportunities for Shared Learning

NCTM's "Principles to Actions" has provided teachers with research-based teaching practices that are essential when implementing a standards-based curriculum. The Dana Center has taken these eight teaching practices and created Innovation Configuration Maps that provide clear, specific, and shared descriptions of what these practices actually look like. Join us as we use these tools to step inside a virtual classroom on Inside Mathematics which was filmed through the Silicon Valley Math Initiative.

GI | INT | 547 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 28 | BT
 Co-presenter: David Foster

Davis, Rhonda
The Outstanding Mastery Guides

OMG! Math Graphic Organizes! Come make an Outstanding Math Guide (OMG) containing graphic organizers with steps, examples and vocabulary for every key concept taught throughout the year. This creative guide offers students a quick reference that will put a year's curriculum at their fingertips! The OMG will transform your classroom and help you introduce or review material in a way that is fun and exciting for students! All participants will create a folder for their OMG and three grade specific graphic organizers.

3-5 | MITI | 160 | Saturday, 8:00 - 9:00 | PGMidS Library A | BT

De La Vega, Daniel — Montebello Unified SD
Teacher Clarity with Learning Intentions & Success Criteria

Teacher Clarity is one of John Hattie's higher effect size strategies. I will share my journey and process of incorporating Learning Intentions and Success Criteria. Participants will leave with a Checking for Mastery Tool. A Template will be provided.

8-12 | INT | 148 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 29 | BT

Dees, Kathryn
Connecting Mathematics Ideas Using Representations

Our students build ideas and reason about mathematics through visual representations that allow access for all. When we support students with the space to think, they have the opportunity to make connections between their own ideas and other classmates. Learn how to pose meaningful questions to support students' thinking. Visualize what happens in a classroom when all ideas are valued. This session includes samples of student's reasoning about their representations through pictures and videos.

GI | INT | 410 | Saturday, 1:30 - 3:00 | Asilomar, Curlew | BT

Dickenson, Patricia — National Univ.
Connecting Math and Social Emotional Learning

This session will explore project based tasks and problem based learning as a pedagogical tool for creating tasks that incorporates social emotional learning into math concepts. Rubrics and tasks are provided for audience to review and modify for their personal use.

3-5 | MITI | 347 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 28 | BT

Out of respect for presenters and other participants, please silence or turn off electronic devices during sessions.

Dienz, Patricia — WestEd

Supporting English Learners in Secondary Mathematics

In this session, we will introduce a high-yield pedagogical practice that addresses secondary level students' development of mathematics conceptual understanding and English language development simultaneously. Participants will engage in collaborative, interactive tasks including: participating in and analyzing a standards-based, framework-aligned "keystone pedagogy" and model lesson; sharing ideas about scaffolding student learning, formative assessment, and equity.

8-12 | PRS | 212 | Saturday, 9:30 - 10:30 | Asilomar, Dolphin | BT

Dimas, Cecilio — Silicon Valley Mathematics Initiative Re-humanizing Mathematics Instruction Using Re-engagement

Explore the power of building on student thinking utilizing re-engagement. Participants will experience a lesson-building process, with performance tasks, that embraces students' current understanding as an asset to propel the entire learning community forward. We'll examine how re-engagement lessons, by design and structure, support teachers to empower students to strengthen their sense of agency, ownership, and identity, while deepening their understanding of mathematics.

GI | INT | 301 | Saturday, 11:00 - 12:00 | Asilomar, Fred Farr Forum

Co-presenter: David Foster

Doherty, Robin Journaling Math Talks

Hands on! Come experience the combination of journal writing and Number Talks to embrace diversity of thinking, engage and capitalize on student ideas and creating a safe space for all students.

6-8 | INT | 150 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 32 | BT

Eisenberg, Gary

Singing, Dancing, and Playing Through K-3 Mathematics

Participants will leave this session with ready to use, practical ideas to enhance their K-3 math instruction through songs, dances, and games that their students will ask them to do again and again. Participants will gain an invaluable resource that is easily accessible through YouTube. Participants will leave this interactive, life changing session happy and with a new set of skills to raise the positive climate of their classroom and student mastery of math skills.

PK-2 | INT | 140 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 13 | BT

Engle, Matthew — Monterey Bay Academy Bringing Similarity to Light

Similarity, scale factors, and dilation are far-reaching concepts throughout the curriculum as well as life. Come take part in a lesson where we experience a new way to understand these concepts by casting shadows on shapes! Not only will students develop a deeper understanding of the ideas, especially one-point dilations, they will also have the opportunity to informally think about some deeper questions. Teachers will come away with a detailed lesson plan and supporting materials.

6-8 | INT | 304 | Saturday, 11:00 - 12:00 | Asilomar, Oak Shelter | BT

Erickson, Tim — eeps media & Lick-Wilmerding HS Opening a Door to Data Science: Exploring Income Inequality

This is math and statistics in a rich social-justice context. We will explore US Census microdata — one person per row — using free online software. To describe patterns in this huge dataset, we must develop computational thinking and data skills. We will also see how to use data to support or refute alternative explanations — to income inequality. We'll discuss approaches that help students make nuanced conclusions and, ideally, inoculate them against attractive but false claims. Please bring computers.

8-12 | INT | 556 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 38 | BT

Everett, Berkeley

Hack the Hidden Message

Let's increase our awareness of the way our words and actions are interpreted in math class. Great math teachers engage in ongoing mathematical learning, create incredible math experiences for their students, and know how to keep those two things separate. We will investigate how small changes can communicate a more inclusive vision of mathematics where students trust their own thinking and the thinking of their peers, rather than relying on the teacher.

PK-2 | INT | 517 | Saturday, 3:30 - 5:00 | Asilomar, Nautilus West | BT

Fenton, Michael — Desmos, Inc.

The Desmos Dashboard: A Love Letter to the Five Practices

The Desmos dashboard collects a LOT of student ideas. What's the best way to make use of those ideas? We'll look at how Smith and Stein's "5 Practices" informed our designs at Desmos, and discuss best practices for orchestrating class discussions.

GI | INT | 418 | Saturday, 1:30 - 3:00 | Asilomar, Merrill Hall

Fetter, Annie

Two Structures for Looking at Student Work

To get better at making quick instructional decisions, we need to practice doing it slowly, sometimes with colleagues, and without any urge to give "grades." We'll look at a set of student work and think about both individual and group feedback. If we want students to understand and maybe even enjoy mathematics, we need to improve our abilities to see, and learn more about, the math ideas they are bringing to our classroom, many of which are exciting, interesting, and valid.

3-5 | INT | 308 | Saturday, 11:00 - 12:00 | Asilomar, Toyon | BT

Flynn, Mike — Mount Holyoke College

Powerful Math Moments: Why Certain Experiences Stand Out

Why do students remember some lessons but seem to forget others completely? In this workshop, you'll dig into the psychology behind memorable experiences and learn how to apply these ideas to create meaningful and memorable mathematical experiences.

GI | INT | 501 | Saturday, 3:30 - 5:00 | Asilomar, Fred Farr Forum | BT

**Fong, Alissa — Center to Support Excellence in Teaching,
Stanford Univ.**

What Do I Say Now?: Responsive Facilitation of Small Groups

We put great effort into planning groupwork, but what about once students start working? All too often we intervene by rushing students to the mathematical punchline without letting them reap the reward of productive struggle. To build classrooms that capitalize on student thinking, teachers must develop a repertoire of "nudges" that respond to each group's needs. Through video and vignettes, our session will offer ways to decide which nudge will be most effective for a group in that moment.

8-12 | PRS | 211 | Saturday, 9:30 - 10:30 | Asilomar, Sanderling | BT

Co-presenter: Geetha Lakshminarayanan

**Ford-Salyer, Deborah — TeachingBooks.net
Culture + Books + Math = Literacy for All**

Using our new state-funded literacy digital resource, TeachingBooks, discover 100+ culturally diverse books with over 1000 online resources designed to support your learning standards. Participants will listen to booktalks to create their own booklists while gathering ready-to-use lesson plans, readers theater and more that will not only save you time, but build bridges between math and literature. Find out how effective a culturally diverse book collection can support your math standards.

GI | INT | 333 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 4 | BT

Fossum, Nolan

Put the Power of Discovering Conics in the Students' Hands

Get ready to hear your students exclaim “Conic sections are fun!” Participants in this session will engage in classroom-tested lessons that get students constructing and conjecturing, drawing connections, and generalizing about graphs and equations of conics all without memorizing formulas. Head back to your classroom with activities that bring conics to life and guide your students into discovery of the richness of this often confusing topic.

8-12 | INT | 110 | Saturday, 8:00 - 9:00 | Asilomar, Curlew | BT

Foster, David — Silicon Valley Mathematics Initiative
Why Your SBAC Scores are Flat and What to Do About It

Across California SBAC/CAASPP scores have been flat for four years. This session reveals the underlining problems with current strategies and offer specific alternatives that have a track record of success for schools in northern California.

GI | PRS | 305 | Saturday, 11:00 - 12:00 | Asilomar, Evergreen

Fox, Amanda — Presidio Knolls School
Math = les mathématiques = ?

What is math? Why do we teach it, and what math do we teach? The story of mathematics, shaped by language and culture, is told differently in educational systems across the world. In this session, three educators from China, France, and the U.S. will share our experiences with math instruction in bilingual schools. Participants will experience a French style geometry lesson and engage in a dialogue about how our students will benefit if we broaden our view of what math is and why it is valuable.

3-5 | PRS | 331 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 1 | BT

Co-presenters: *Elodie Voleau and Linling Cai*

Franco, Jose — WestEd

Supporting English Learners in Mathematics K-5

In this session, we will introduce a high-yield pedagogical practice that addresses elementary level students' development of mathematics conceptual understanding and English language development simultaneously. Participants will engage in collaborative, interactive tasks including: participating in and analyzing a standards-based, framework-aligned “keystone pedagogy” and model lesson; sharing ideas about scaffolding student learning, formative assessment, and equity.

Tchr Ed | PRS | 443 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 24 | BT

Frand, Jason — Culver City Unified SD

New Instructional Tools to Teach Word Problems

Participants individually and in teams will learn 3 tools: 1—A Problem Assessment to assist teachers plan a lessons by matching problem attributes to students' readiness; 2—A KEY to Solving Mathematical Problems to empower students to persevere in solving problems; 3—A Solution Strategy Worksheet to engage students in analytical thinking, exploring alternative strategies, and learning how to check their own work. Teachers who use the tools report an increase in perseverance for their students.

6-8 | INT | 504 | Saturday, 3:30 - 5:00 | Asilomar, Oak Shelter

#hashtag **CMCMATH**

@CAMathCouncil

Freeburn, Ben — Natomas Charter School
Learning from Rehearsals of Mathematics Teaching Practices

Rehearsals of teaching practices are well-documented activities for professional coursework for mathematics teachers. We will share a modified learning cycle (Arbaugh et al., forthcoming) designed to engage preservice secondary mathematics teachers (PSMTs) in eliciting and responding to student thinking. Participants will engage with course artifacts (e.g., video of rehearsals, course handouts) and discuss findings from our study of PSMTs' responses in different types of rehearsals.

Tchr Ed | PRS | 105 | Saturday, 8:00 - 9:00 | Asilomar, Evergreen

Co-presenter: *Dr. Duane Graysay*

Frost, Bernard — Spartanburg SD 2
How to Survive Teaching Mathematics in 2019 and Beyond!

With technology advances, teaching conceptually, and various needs teachers are “burn out” and leaving the profession. Our own words, attitudes and actions tend to trickle down into the classroom and cause unnecessary stress. Great motivational and managerial strategies to minimize stress teachers face daily in the math classroom will be shared to inspire teachers and leaders.

GI | PRS | 104 | Saturday, 8:00 - 9:00 | Asilomar, Oak Shelter | BT

Fulton, Brad — Mistletoe STEM Institute
Teaching Math More Effectively

Learning is about connections. Too often we are encouraged to hyper-focus on standards and students struggle to make meaningful connections. Learn how to integrate across multiple standards for more effective learning, higher engagement, and efficient use of our classroom instructional time using simple and empowering strategies. A full ready-for-Monday handout will be provided.

6-8 | PRS | 101 | Saturday, 8:00 - 9:00 | Asilomar, Fred Farr Forum

Gale, Mardi — WestEd

Launching Tasks for Access and Attending to Diversity

The way a task is launched has everything to do with student access to and understanding of the math. What are critical elements for launching tasks leading learners to success? Knowing how to properly launch a performance task is an essential skill promoting sensitivity to the diversity of students and their backgrounds. See how these elements encourage engagement and learning; support SMPs; maintain high cognitive demand, all leading to productive discourse at the end of the task.

GI | PRS | 201 | Saturday, 9:30 - 10:30 | Asilomar, Fred Farr Forum | BT

Galendez, Maria Lourdes — Santa Teresa HS
MRWC: Building Up High School Students Number Sense

This session aims to showcase some activities that focus on students' development of number sense, which is an essential skill. It will highlight numerical problems from the Mathematical Reasoning with Connections (MRWC) high school curriculum. Activities based on developing students' fluency and flexibility among Real Numbers and mirroring the Mathematical Practices will be implemented and discussed.

8-12 | INT | 155 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 37 | BT

Co-presenter: *Trudi Wink*

Although this book contains the latest information available as of the printing deadline, some last-minute **program changes** are inevitable. We apologize for any inconvenience that may result, and we appreciate your understanding.

Garcia, Isabel — San Benito HS

Grading for Equity: Proficiency-Based System for All

What does a grade represent? How do students show what they know? In this workshop we will be outlining the evolutionary path our site took to creating and implementing a set of grading practices founded on the core values of equitable learning opportunities for all. Topics include: a focus on mastery of content, learning skills instead of earning a grade, student self-efficacy and growth mindsets, evolution of assessments and grading (0-4), and relationship building.

8-12 | INT | 241 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 21Lab | BT

Co-presenter: Elaine Klauer

Gerodias, Nerissa

Transformations and Desmos for Culturally Diverse Classrooms

Make sense of function transformations by helping students in linguistically and culturally diverse classrooms overcome language barriers to learning math concepts deeply and thoroughly through the use of interactive Desmos activities. Understand how transformations of functions become manifested in tables, equations and graphs by making connections across these different representations of functions through visualization and animations using Desmos.

8-12 | INT | 515 | Saturday, 3:30 - 5:00 | Asilomar, Triton | BT

Co-presenter: Linda Saeta

Goldstein, Mark — Center for Mathematics and Teaching Essentials to Get Struggling Middle-Schoolers Back on Track

Practical research-based ideas empower struggling learners by filling gaps and staying current with grade-level math. Intervention acts against its goals, focusing on skills at the expense of concept development and problem solving. These are capable, different learners who haven't been given access. We'll do math to help attendees understand the six major research themes, discuss how to effectively structure the classroom, and share stories of success in the field with supporting data.

6-8 | PRS | 307 | Saturday, 11:00 - 12:00 | Asilomar, Acacia | BT

Co-presenter: Cynthia Raff

Gomez, Emiliano — UC Berkeley

Equitable Placement and Support: Tools and Recommendations

This talk is for middle and high school. We will briefly describe SB 359, including its rationale regarding equity. Describe MDTP's placement tests and how they can be used in conjunction with our diagnostic tests for complying with SB 359. Provide recommendations on how to make placement decisions, paying attention to equitable practices. Give a little basic information on the statistical issues around setting cutoff scores. MDTP materials/services are free for California schools.

GI | PRS | 244 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 25 | BT

Co-presenter: Kim Samaniego

Graziano, Jennifer — Sacramento City Unified SD

Senior Year Math Courses: Supporting Student Success

Many of us recognize that there is a need for more options in senior year mathematics courses that strengthen students' mathematical foundations, preparing them for college and career. We are excited to share about the CCSSM-aligned curricula and accompanying professional learning program developed by our intersegmental partnership- CSU, Sacramento; COEs; K-12 districts- to help meet this need. Come hear our story and consider how these Quantitative Reasoning courses might benefit your students.

8-12 | PRS | 344 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 25

Co-presenter: Deb Stetson

Green, Jillian — Johns Hopkins Center For Talented Youth

Cryptography For Students Around the World

Having taught Cryptography in Asia, the Middle East, and the United States, I will share methods for tailoring curriculum and teaching practices based on the diverse needs of various student populations. Come learn how to adapt any math lesson so that it is culturally relevant, accessible to EL students, rigorous, and fun. Be prepared to brush up on basic number theory and crack some codes!

8-12 | PRS | 255 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 37 | BT

Guzik, Randy — Pacifica HS

Math History for Enhanced Learning and Cultural

Appreciation Understanding some contributions from different mathematicians and cultures through the ages gives us deep and interesting background to key mathematical ideas. We will explore how mathematics from various cultures (such as Ancient Greek, Middle Eastern and Mayan) as well as the works of diverse mathematicians (Fibonacci, Hypatia, Ramanujan, among others) can be woven into lessons to enhance key mathematical concepts.

GI | PRS | 408 | Saturday, 1:30 - 3:00 | Asilomar, Toyon

Habecker, Duane — Merced COE

Using Math Language Routines for Students with Disabilities

Providing high-quality mathematics instruction to ALL students means including those with special needs and IEPs too! Join us as we share best practices for adapting common mathematics routines to support students with special needs and learning challenges and how administrators and leaders can guide the process for doing so. This session is appropriate for teachers and mathematics leaders of ALL grade levels.

GI | INT | 312 | Saturday, 11:00 - 12:00 | Asilomar, Dolphin | BT

Co-presenter: Jamie Garner

Hagman, Jennifer — UCLA Math Project

The Mathematical Art of Storytelling

How can we use stories to unlock the math in everyday life and how can we build on what students' already know? We will explore area, perimeter, and graphing in context. Because our focus is quantitative reasoning and student understanding, we will use everyday language, multiple representations and context as we solve problems, and discuss student understanding and pedagogical strategies. Join me for sense making and inspiration to start math storytelling in your class next week!

3-5 | INT | 141 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 21Lab | BT

Hakansson, Susie — TODOS: Mathematics for ALL

Incorporating Equity into the Lesson Study Process

Infuse equity into the lesson study process to provide traditionally underserved students access to high quality and rigorous mathematics and to shift teachers' approaches to incorporating best practices for these students. This session will provide concrete examples on how to focus on equity in teaching that increases access to and success in cognitively demanding mathematics.

GI | INT | 505 | Saturday, 3:30 - 5:00 | Asilomar, Evergreen | BT

Hebert, Tim — Sacramento City Unified SD

Reasons for Routine-ing: Better Learning for More Learners

Do you struggle with getting ALL students interested, engaged, and involved in deeper learning? We all want to make it happen, but HOW? Tim and Amie will show one great answer - instructional routines! See how we use these "recipes" for a great lesson, with equity and access "baked in," to provide multiple means of engagement, representation, and action and expression.

GI | INT | 317 | Saturday, 11:00 - 12:00 | Asilomar, Nautilus West | BT

Co-presenter: Amie Choi

Heiman, Siva

Do You Have These 2 Questions?

How can I help my K, 1st or 2nd grade students: 1. understand the base 10 number system? 2. learn the basic addition & subtraction facts using critical thinking and strategies? My answer is the same for both questions: Use Visual Math Number Pictures. Come see how.

PK-2 | INT | 543 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 24 | BT

Henderson, Kathy — Seven Hills School

Do You Desmos? Dynamic Geometry Tools for Your Classroom

Dynamic, engaging tools aid our students to become deeper thinkers and stronger mathematicians. Learn how Desmos' geometry and calculator tools can create more relevant and thoughtful discussions in your classroom. Leave with ready-made activities.

GI | INT | 158 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 23 | BT

Co-presenter: Jay Chow

Horgan, Connie — Math Solutions

Promoting Discourse in Middle School

Are your middle school students reluctant to describe their thinking, defend their conjectures, and listen to their peers? Come to this session to experience instructional strategies and classroom structures that will empower students to talk about mathematics. Participants will play the role of students to experience 5 - 6 discourse structures, followed by the opportunity as teachers, to debrief the experience to consider the value of each structure and implementation in their own classroom.

6-8 | INT | 407 | Saturday, 1:30 - 3:00 | Asilomar, Acacia | BT

Co-presenter: Gloria Weinberg

Hua, Lyra — East Side Union HS

Building Agency: Helping Students Deal with Math Anxiety

Research has shown that for students who don't do well in math, the answer does not lie in giving them more math classes. So what might we do as educators? Perhaps we can explore ways to build positive relationships with our students thereby giving them control of their math anxiety. This session will allow us to look at research and data that will support all our students in being able to access math content while understanding themselves more as learners.

8-12 | PRS | 356 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 38 | BT

Hull Barnes, Lizzy — San Francisco Unified SD

Learning from Our Language Learners in San Francisco

When district math staff each shadowed an English Language Learner during a mathematics lesson, we saw that these students weren't getting opportunities for meaningful academic interactions with peers. As a result of the shadowing experience, we worked with a research partner to strengthen our PD and coaching work with more language and participation structures that benefit ELs, and all students. Join us to learn how shadowing a student can help educators to see patterns and shift practice.

Ldrshp | PRS | 202 | Saturday, 9:30 - 10:30 | Asilomar, Kiln | BT

Co-presenter: Frances Reade

Hurtado, Carolee — CSU Channel Islands

Driving While Brown: Using Mathematics as an Analytical Tool

Join this session to engage in a lesson designed to analyze California traffic stop data and engage in discussion about how mathematics can be a powerful tool for analyzing and potentially changing the world. Through social justice mathematics investigations, students develop mathematical brilliance, a greater understanding of important social issues, and strong individual and collective voices for creating change in their communities

.6-8 | INT | 411 | Saturday, 1:30 - 3:00 | Asilomar, Sanderling | BT

Co-presenter: Kyndall Brown

Hurtado, Gloria — Healdsburg Unified SD

Journaling a Math Talk

How do we give students an access point when building their mathematical stamina? We will share our trials, experiences and challenges as we develop strategies in getting our students to increase their perseverance, problem-solving and math identity via journal writing and number talks. We will explore the combination of journal writing and number talks to embrace diversity in thinking, engaging and capitalizing student ideas and creating a safe space for all students.

6-8 | PRS | 303 | Saturday, 11:00 - 12:00 | Asilomar, Heather | BT

Co-presenter: Robin Doherty

Jackson, Traci — Poway Unified SD

Want Productive Math Groups? The Writing's on the Wall

Do you wish students would engage quickly in problem solving and be willing to try different strategies? What if you could see the progress of each group simultaneously? Imagine creating a classroom where student discourse and leading discussions flowed naturally out of the problems! This interactive session will explore using vertical whiteboards to increase success in formative assessment, the amount and level of mathematical discourse, and leading discussions based on student work.

8-12 | INT | 360 | Saturday, 11:00 - 12:00 | PGMidS Library A | BT

Co-presenter: Cindi Randall

Jain, Anjali — Carondelet HS

Interdisciplinary Research in AP Statistics with Minitab

Statistics (AP or non) is a course rich with opportunity for real-world applications. Make Statistics come alive by utilizing a project-based-learning model in which students are researchers. The teacher becomes the "grant-funder" as the students research and submit unique multidisciplinary proposals and ultimately apply the methods they learn in class to their own data using Minitab statistical software. Different ways to showcase the final research at the end of the course will be explored.

8-12 | PRS | 207 | Saturday, 9:30 - 10:30 | Asilomar, Acacia | BT

Jain, Isha — Synapse School

Project: Mathematics through Settlers of Catan

In this interactive session, participants will discover how student interests helped develop a board game project. Using the game Settlers of Catan as a primary example, we will explore how authentic content was delivered through low-floor, high-ceiling tasks to middle schoolers. Whether you are an expert on Settlers of Catan or have never played, this session is open to all interested in exploring the interconnectedness of mathematical concepts through project-based learning.

6-8 | INT | 534 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 5 | BT

Co-presenter: Mark Leitch

Jalalpour, Kathleen — Keys School

Teaching Word Problems

Word problems should make math class fun, not frightening. Come and practice using tape diagrams (bar models) to solve word problems, 3rd through 8th grade. Learn how to teach this skill using challenge, visualization, and games, and make it accessible to all students.

GI | INT | 144 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 25 | BT

Co-presenter: Corrinne Lieu

Joyce, Martin — Taylor MS

Making Math Accessible with Anchor Charts

Frustrated that students have unfinished learning from prior grade levels or even last week? Increase the odds of more students succeeding by creating anchor charts with #purposefulcolor for and with your students. Leave with ideas to implement!

6-8 | INT | 108 | Saturday, 8:00 - 9:00 | Asilomar, Toyon | BT

Katz, Nova — Sacramento City Unified SD
Building Concrete Visual Patterns: One Block at a Time!

How can we lay a foundation for abstract modeling using concrete tools? Join as we find beauty in visual models by building with plastic bricks. In this hands-on, interactive session, we will build an understanding of how concrete manipulatives extends learning from kinder to high school. Designed with intentionality around Jo Boaler's strategies for Teaching Heterogeneous Groupings Effectively, this activity will build from a simple visual pattern to an algebraic expression... literally!

GI | INT | 151 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 33 | BT
 Co-presenters: Jennifer Graziano, Tim Hebert, Suzie Craig

Kearney, Jillian — The Archer School for Girls
Coding into the Future: Projects for Middle School Math

Experts say coding is the most important job skill of the future. Set students up for success by incorporating computer science in middle school math class! Incorporating coding projects into your class empowers students, strengthens math skills, and increases engagement. Let's explore how to create, implement and assess math-related coding projects for students (and teachers) at all levels of experience. Come live the student experience and leave with resources for tested projects.

6-8 | MITI | 510 | Saturday, 3:30 - 5:00 | Asilomar, Curlew | BT
 Co-presenter: Kelly Lougheed

Kelley, Mary — Sylvan STEAM Academy
Digitizing Math in the K-2 Classroom

Make math thinking visible. Let's explore free online resources as well as Flipgrid, Seesaw, Google Slides, and Hyperdocs to support the development of the math practice standards while engaging young learners through collaborative and authentic tasks. Examples included of how to use the principles of UDL, the 5 Es, and Hyperdocs to intentionally design digital lessons with depth and complexity for student choice and voice.

PK-2 | PRS | 335 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 6 | BT

Kim, Matthew — ICMATH LLC
From Paper to Pixels: How to Desmo-fy Your Math Lessons

In this session we will take you through the process of taking your static paper based lesson and transforming it into a dynamic and interactive Desmos lesson through the Desmos Activity Builder. We will also share ready-to-use activities as well as strategies and insights that will help you build your own. Participants are encouraged to bring their laptops to use in this interactive presentation.

8-12 | PRS | 557 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 39 | BT
 Co-presenter: Ivan Cheng

Knotts, Angela — WestEd
I Need to See It: Classroom Video Cases in Teacher PD

Time for professional development is becoming difficult to find. Many PD providers use classroom video as a tool for supporting teachers' professional learning, but struggle with selecting and framing the video to optimize the experience for teachers. In this session, participants will watch two classroom video clips, discuss what teachers might learn from them, and consider how they can be framed in a way that deepens both content knowledge and pedagogical skills.

Ldrshp | INT | 245 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 26
 Co-presenter: Katie Salguero

Out of respect for presenters and other participants, please silence or turn off electronic devices during sessions.

Koehler, Valerie
Gamify Your Math Class with Digital Breakouts!!

In this interactive session, participants will begin by working in groups to complete a digital breakout centered on key 6th-8th grade math skills. Next, participants will learn, step-by-step, how to create a digital breakout using Google Sites. Resources and examples will be provided, and participants will have time to begin creating their own digital breakout. You can find my previous presentation @ Bit.ly/DigiBreakouts, but this will be modified to be centered around math concepts.

6-8 | MITI | 311 | Saturday, 11:00 - 12:00 | Asilomar, Sanderling | BT
 Co-presenter: Amanda Valine

Koester, Mark — MSU Denver
Connecting Algebra and Geometry through Historical Texts

Many students believe that algebra and geometry are not related and don't have any connection. However, the history of mathematics provides us with numerous examples of how mathematics is interrelated. Come join us as we interact with texts from the masters (e.g., Euler, Fermat, Al-Khwarizmi), work together on interesting mathematics that engages all students and discuss how the use of curricula in narrative form and historical examples can be utilized in your classroom.

8-12 | INT | 346 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 27 | BT
 Co-presenter: Tayna Camargo

Kombe, Dennis — California State University Monterey Bay
Nudging Students' Thinking in Elementary Math

Probing diverse student thinking requires that a teacher be skilled in effective techniques of questioning, discussion, and listening. In this interactive presentation, teachers use fraction concepts to develop and/or refine a set of interrelated skills related to a) attending to students' strategies, b) interpreting students' understandings, c) deciding how to respond on the basis of students' understandings, and d) making instructional decisions that surface ideas that benefit all students.

3-5 | INT | 116 | Saturday, 8:00 - 9:00 | Asilomar, Nautilus East | BT

Kong, Ivy — Pacific Grove MS
Bringing Equity and Access With Changes You Can Make

When you look at your curriculum, do you feel that the materials aren't exactly hitting the learning target you have in mind? In this session, we will look at a combination of task adaptation and facilitation strategies with the goal of giving students access to mathematical understanding beyond rote memorization. We will explore ways to make manageable changes to our curriculum and structure our math class to make tasks more accessible, appealing but rigorous to our students.

6-8 | INT | 355 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 37 | BT
 Co-presenter: Kyle Mountain

Krasnow, Allison — Berkeley USD
Rooting Math Intervention in Sense-Making

From magnetic number tiles for Open Middle problems to Desmos activities on upper-elementary topics, there are endless ways to design middle school intervention focused on students making deeper connections. The challenge is curating resources and designing a course which thoughtfully supports grade-level big ideas. I'll share my success and challenges in teaching this type of course and we'll have a collaborative conversation on how to most effectively support students in intervention classes.

6-8 | INT | 544 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 25 | BT
 Co-presenter: Geeta Makhija

Kysh, Judy — San Francisco State Univ.

Diversity Requires Alternative Forms of Formative Assessment

What does inclusive formative assessment include? What does it not include? There are many forms of formative assessment that we already include every day. They need to be recognized and credited. And there are others, including no-risk multiple choice questions, that we could incorporate. Examples of specific alternatives will be considered and discussed along with ways to balance them with accountability.

8-12 | INT | 145 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 26 | BT

La Mar, Tanya

Prioritizing Math Practices In Heterogeneous Classrooms

When it comes to math practices, the field provides a long list of possible foci but teachers cannot prioritize all of them. Furthermore, in today's classrooms students enter with an increasingly diverse range of strengths and needs. After de-tracking math classes, this school district saw the proportion of students failing algebra fall from 40% to 8%. This leads to the question answered by this study: in successfully de-tracked algebra 1 classrooms, what practices do the teachers prioritize?

8-12 | PRS | 135 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 6 | BT

Lahme, Brigitte — Sonoma State Univ.

What's a Pink Tax? Modeling Math that Impacts Our Lives

Gender inequity has real economic consequences. We will investigate differential costs for everyday products marketed to women and men. For example, what is the impact over a lifetime when a pink razor costs more than a blue one? After gathering and analyzing internet data, groups will create and revise a mathematical model and present findings. We will unpack the modeling cycle and MP4. We conclude with a discussion of the enactment of social justice oriented problems in middle school.

6-8 | INT | 509 | Saturday, 3:30 - 5:00 | Asilomar, Marlin | BT

Co-presenter: Kathy Morris

Lakshminarayanan, Geetha — Center to Support Excellence in Teaching, Stanford Univ.

Using Classroom Video for Teacher Coaching

All students can learn mathematics at high levels, but how do we put that belief into daily practice? Reflecting on teaching is generally based on teacher and coach recall, which, despite best intentions, is often biased. Watching video helps teachers see nuances in what students say and do, and in the teacher's "moves" in response. In this session, we will share our experiences using video to discuss issues like classroom culture, intellectual safety, and equity, all anchored in video evidence.

Ldrshp | PRS | 111 | Saturday, 8:00 - 9:00 | Asilomar, Sanderling

Co-presenter: Alissa Fong

Lamb, Joseph — Tulare COE

Notice and Wonder: A Culturally Responsive Routine

How can routines be culturally responsive and empower dependent learners to become independent learners? The Notice and Wonder routine can help you do this by giving a voice and belonging to students in mathematics. Discover the best places to leverage the power of the routine and understand its different purposes. In addition, learn teacher moves that support responsive and intentional teaching of mathematics.

PK-2 | INT | 209 | Saturday, 9:30 - 10:30 | Asilomar, Marlin | BT

Co-presenter: Ginna Willers

Langbort, Carol — San Francisco State Univ.

Spatial Visualization Activities: Tangrams and Pentominoes

Both activities, Making and Using tangrams, and Making and Using Pentominoes, will improve your own spatial abilities and those of your students. We will do a variety of activities with each manipulative that you can easily use in your own classrooms.

3-5 | INT | 206 | Saturday, 9:30 - 10:30 | Asilomar, Scripps Conference | BT

Leitch, Mark — Synapse School

Playful Mathematics Through Unsolved Problems

In this interactive session, participants will learn how unsolved mathematics problems can be used for low-floor, high-ceiling investigations for middle schoolers. Participants will be introduced to the Collatz Conjecture and have time to explore the problem themselves. We will discuss how this investigation deepens number sense and algebraic understanding, gives kids a sense of playfulness with mathematics, and even how the problem can be explored through computer science.

6-8 | INT | 103 | Saturday, 8:00 - 9:00 | Asilomar, Heather | BT

Co-presenter: Isha Jain

Low, Patty — Curriculum Consultant

Fractions: A Gatekeeper to Algebra

Fraction modeling strategies supports mathematical reasoning. Sharing and evaluating strategies through discourse deepens students understanding of fractions while building on the progression of number sense. Looking for relationships or patterns moves the focus away from algorithms and places focus on the concept.

3-5 | INT | 334 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 5 | BT

Luberoff, Eli — Desmos, Inc.

Creating Interesting Ways for Students to be Right and Wrong

The best math tasks don't just result in lots of right answers or even lots of DIFFERENT right answers. They result in lots of different, interesting ways to be right AND wrong. We'll look at the way high- and low-tech can help teachers honor and build on student thinking in every form.

GI | PRS | 118 | Saturday, 8:00 - 9:00 | Asilomar, Merrill Hall

Lundgren, Brian — Bohannon MS

Fight the Plateau: Take Control of Your Personal PD

How can we as teachers get quality, sustained PD that is focused on exactly what we need to improve on? This presentation will talk about the power and flexibility of using your own classroom video to reflect and refine your pedagogy in the comfort of your classroom. We will discuss how I, and collaboration with a trusted colleague, use video to improve the quality of teacher-student interactions. We will also discuss how anyone can quickly get started with video professional development.

GI | PRS | 208 | Saturday, 9:30 - 10:30 | Asilomar, Toyon | BT

Co-presenter: Julie McNamara

Luzniak, Chris — The Archer School

Up for Debate! An Introduction to Debate Routines in Math

Imagine: Debate, often a humanities staple, as an integral part of your mathematics classes. Debate activities have been proven to increase student achievement and understanding. Debating also helps students learn to embrace diverse ideas. So let's explore ways to incorporate debates into everyday math lessons! Come learn and experience the quick techniques, warm-ups, and other routines to start healthy math-debating classrooms that engage all students.

GI | INT | 542 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 22 | BT

@CAMathCouncil

Machmer-Wessels, Keely — Oakland Unified SD
Practicing the Five Practices

The Five Practices for Orchestrating Productive Mathematical Discussions are a powerful structure for facilitating discourse based on student thinking. In this session, teachers will rehearse these practices with other teachers and plan for implementation in their own classrooms. Participants will leave with a task for which they have anticipated student responses, and planned how to monitor, select, sequence, and connect.

6-8 | INT | 254 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 36

Co-presenter: *Cassandra Chen*

MacMahon, Jeremy — Fillmore HS
Changing Math Learning Trajectories of Under-served Students

Trouble addressing the needs of incoming 9th graders not ready for success in Math 1/Alg 1? Math 9 class reviewing MS curriculum? A 2-year Math 1 class? Learn what a high school did when faced with dismal outcomes for Math 1A students. Math 9? No! Instead, change the learning trajectories of these students by building mathematical mindsets! Learn about the very promising results, experience some of the maths used, and leave with some ideas about how you might do this!

8-12 | INT | 251 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 33 | BT

Co-presenter: *Jim Short*

Mattoon, David — Hemet USD
Context and Manipulative for Equity in Expressions and Equations

Use and connect mathematical representations to build procedural fluency from conceptual understanding, two Effective Mathematics Teaching Practices. Rethink student deficiency and scaffolding and explore how context and concreteness fading can revolutionize your teaching. Use contexts and algebra tiles along with area representations (pictures) to support ALL students. Avoid common mistakes by focusing on the meaning of algebraic terms, expressions and equations including polynomial combination.

6-8 | INT | 445 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 26 | BT

Co-presenter: *Derek Rouch*

McCaw, Shannon — EdGems Math LLC
Bridging the MS Math Equity Gap through Collaboration

In this session, teachers will learn strategies that can be implemented for any learning target to engage all students, including English language learners and students with IEPs, in collaboration while building understanding of the mathematics. The engagement strategies that will be modeled will build teachers' toolboxes to help students with vocabulary acquisition, collaboration strategies and reflection/justification practices.

6-8 | INT | 458 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 23

McClain, Maria — Deer Valley HS
From One to Infinity: The Limit of the Riemann Sum

Applications of integration are some of the most exciting and challenging concepts for students. In this session, we will explore the applications of area, volume, arc length, surface of revolution, work, and fluid force by developing a calculation for one "representative unit" then expand the calculation to an infinite number of units. Through the use of graphical representations and physical models, we will make connections between the integrand, the integral, and the limit of the Riemann Sum.

8-12 | INT | 354 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 36 | BT

McConnell, Jenny — Lorin Eden ES
Honey, I Blew Up the...

Experience 2D and 3D project-based learning activities done with 5th and 6th grade students. Identify how these activities support student understanding of scaling and graphing (5th) as well as ratio/proportion and geometry (6th) content standards while using the Standards for Math Practice. Describe ways in which the concepts that surfaced in the projects can be applied in rich, non-routine performance tasks. Work together to determine the best ways to re-engage the students in these big ideas.

6-8 | INT | 454 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 36 | BT

Co-presenter: *Sally Carter*

McLean, Peggy — Peggy McLean Consulting
Connecting Multiplication and Division Concepts

Students develop understanding of multiplication and division concepts when they can build, draw, and connect features of their structure to symbolic representations. Understanding terms such as factor, product, divisor take on meaning when students create simple and complex arrays. Building the multiplication table and then using it to solve multi-digit problems becomes a powerful learning tool. Putting materials in the hands of each student promotes equity and ensures student understanding.

3-5 | INT | 217 | Saturday, 9:30 - 10:30 | Asilomar, Nautilus West | BT

McMurtry, Whitney — Kent Denver School
A Differentiated Test: Encouraging Student Voice and Choice

The need to create a better assessment arose from the recognition that our tests did not reflect what we valued in our math classrooms. We wanted something that allowed students to demonstrate general competency while also providing opportunities for deeper problem solving. We abandoned the once-size-fits-all test and created a "tiered" style of assessment. This test provides student choice with a wider range of problems encouraging all students to showcase their best work.

6-8 | PRS | 216 | Saturday, 9:30 - 10:30 | Asilomar, Nautilus East | BT

Mendle, AI — UC Davis
Creativity and Elementary Math Are Not Mutually Exclusive

Participants will examine artifacts and create their own samples of projects that can be used to connect mathematical ideas to both language arts and visual arts. Problem solving will be used to navigate the creative domain. Research findings will also be addressed.

3-5 | MITI | 560 | Saturday, 3:30 - 5:00 | PGMidS Library A | BT

Meng, Deborah — Elk Grove Unified SD
Growth Mindset+Daily Math Routines= Equity and Access

This presentation will demonstrate how to use growth mindset to improve classroom culture and student resilience, implement daily math routines that build learner confidence, and show daily math routines that allow teachers to give real time feedback, differentiate instruction, and create more opportunities to meet the needs of a diverse group of students.

PK-2 | PRS | 107 | Saturday, 8:00 - 9:00 | Asilomar, Acacia | BT

Co-presenter: *Annette Geissler*

Meyer, Dan — Desmos, Inc.
Designing for Belonging

Researchers have linked a student's feeling of "belonging" in math class to positive outcomes in mathematics, including their confidence and intent to pursue math in the future. We'll discuss reasons why students often feel excluded from learning mathematics, along with modern pedagogies, technologies, and designs for including them.

GI | PRS | 218 | Saturday, 9:30 - 10:30 | Asilomar, Merrill Hall | BT

Moffit, Char — California State University, Chico
Children's Literature as a Tool in Mathematics Learning

This session's focus is on the different ways to use Children's Literature in Mathematics to increase engagement and understanding in the following ways: •Share a selection of picture books that can be used for mathematics learning •Model different ways to use the picture books during mathematics lessons •Learn about creating mathematics books with different handmade book forms •Make a mathematics book using one of the handmade forms that were introduced.

PK-2 | MITI | 460 | Saturday, 1:30 - 3:00 | PGMids Library A | BT

Moore, Sara — ORIGO Education

Multiplication Isn't Commutative: Lessons from the Sandbox

Let us convince you that multiplication isn't always commutative. Learn strategies to explore multiplication in the mathematizing sandbox, a place for all students to engage in meaning-making. This workshop is the antidote to mindless problem solving heuristics and key word-based strategies pushing students past the meaning of problems to quick answers. The sandbox environment gives teachers tools and strategies to empower students as problem solvers, able to unpack the meaning of a problem context.

3-5 | INT | 545 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 26

Co-presenter: Kimberly Morrow-Leong

Morrison, Patty

Integrating Literature into Math Pre-k to First

Students love a good story! Literature can support many different levels of students understanding by making topics inviting. Last year I use Please Mr. Panda to introduce Subtraction. Come join me and learn different ways to integrate literature into your current math program. I use literature to introduce a topic or extend learning. Participants will leave with lesson plans ready to use on Monday! See you there!

PK-2 | PRS | 310 | Saturday, 11:00 - 12:00 | Asilomar, Curlew | BT

Morrow-Leong, Kimberly — George Mason Univ.

Mathematizing Problems that Matter to Your Students

How can you build a classroom environment that celebrates mathematics for each and every student? Successful approaches to solving problems, including routine word problems, embrace a multitude of strategies, including mathematizing. Mathematizing is making sense of the actions and relationships in any problem situation and thoughtfully choosing an operation. When students learn to mathematize they have the power to make sense of problems that are important to them and to their communities.

GI | PRS | 134 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 5 | BT

Co-presenter: Sara Delano Moore

Mulhearn, Dennis — MOEMS

Exciting, Effective Problems to Teach Area in Grades 3-5

Challenge your students and they will not only be excited but also reach a deeper understanding of the concept of area. Put yourself in your students' place as you solve more than a dozen problems that investigate and reinforce learning using problems with multiple solutions. The teaching of problem solving will be modeled as you contribute your solutions.

3-5 | INT | 234 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 5 | BT

Although this book contains the latest information available as of the printing deadline, some last-minute **program changes** are inevitable. We apologize for any inconvenience that may result, and we appreciate your understanding.

Nank, Sean — California State University San Marcos
Student Discourse: How Do We Really Make it Meaningful?

Student discourse is important but how do we foster meaningful opportunities to discuss math? Come experience productive struggle while engaging in strategies such as 5 practices, which one doesn't belong, and other language and instructional routines that provide access for all students. We will experience the strategies from the students' perspective, then debrief the curricular and pedagogical strategies. Examples from the new Illustrative Mathematics High School curriculum will be used.

8-12 | INT | 316 | Saturday, 11:00 - 12:00 | Asilomar, Nautilus East | BT

Newell, Chrissy — Stanislaus COE

See it, Move it, Grasp it: Math with Virtual Manipulatives

Manipulatives are important tools that help young mathematicians reason and make sense of complex mathematical ideas. What changes or stays the same when students engage with virtual manipulatives alongside or in place of concrete ones? What are the opportunities and limitations? Explore these questions using free virtual manipulatives - bring your own device!

PK-2 | INT | 533 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 4 | BT

Newton, Roberta — Newton Educational Solutions
Counting is More Than 1,2,3

In this workshop, Dr. Nicki will explore the learning trajectories for counting, subitizing and composing and decomposing numbers for TK and K. Through songs, poems, picture books, tools, and games we will explore the research based levels for building number sense from the beginning! We will make and take, move and groove and learn a variety of ways to make building number sense sensational!

PK-2 | MITI | 460 | Saturday, 1:30 - 3:00 | PGMids Library A | BT

Nichols, Sue — The University of Ohio

International Space Station Microgravity: Mass vs Weight

Engage in "out of this world" hands-on, standards-aligned STEM experiments exploring mass and weight. Create tables and graphs to compare your results to video clips of NASA Astronaut experiments on-board the International Space Station in micro-gravity.

6-8 | INT | 502 | Saturday, 3:30 - 5:00 | Asilomar, Kiln | BT

Co-presenter: Barbie Buckner

Novelli, Barbara

Helping Students Make Important Connections in Number Sense

Number Sense starts with representations of quantities and solving quantitative problems which lead to the operations of addition and subtraction. Developing deep understandings of Place Value is an essential connection to regrouping in all operations. While exploring how each concept supports the understanding of the next, this session will be packed with ideas. You will walk away with great ideas activities and even some songs, a dance, and wonderful literature.

PK-2 | INT | 342 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 22 | BT

Nur, Laila — MfA Los Angeles

There's Greatness In You

Teaching is a demanding and highly complex activity that sometimes leaves us feeling inadequate and filled with self-doubt. We will work to understand what it takes to strengthen ourselves by answering one question: How do I step into my greatness?

GI | PRS | 247 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 28 | BT



tea and coffee

Available during the conference at Merrill Hall, Fred Farr and Curlew on Friday and Saturday.

Orabi, Laura

Making Problem Solving Meaningful

Getting your young students to make mathematical justifications and give meaningful feedback to each other takes intentional teaching moves and time. In this session, we will use student work from a diverse, Title I classroom to explore the routines and structures that have supported our students to improve over time. These high leverage moves have been most impactful when used with rich, non-routine problem solving experiences.

3-5 | INT | 404 | Saturday, 1:30 - 3:00 | Asilomar, Oak Shelter | BT

Ortega, Courtney — Oakland Unified SD

Access and Agency: Making the Most of Math Content Routines

"Notice and Wonder" and "Which One Doesn't Belong" are often used in the Illustrative Mathematics curriculum but they are much more than Warm Ups. Learn how we use them in Oakland as a key lever for providing access to the learning goals of a lesson. Experience each routine as a participant and through classroom video, to do a deep dive into the power of each routine to provide students access and agency around the critical mathematics of a lesson.

6-8 | INT | 512 | Saturday, 3:30 - 5:00 | Asilomar, Dolphin | BT

Co-presenter: Keely Machmer-Wessels

Orton, Chase — chaseorton.com

Demystifying Calculus for K-8 Teachers

Calculus is an accessible topic for elementary and middle school students and is embedded in content you already teach! This workshop is an algebra-free introduction into the concepts that make calculus a joyful topic to study and is designed for K-8 teachers, but all are welcomed. No prior knowledge needed! Come have fun as you give a confidence boost to the math geek inside yourself. You'll leave empowered and inspired to help your students uncover the calculus they are already doing.

3-5 | INT | 136 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 7 | BT

Pan, Ravin

Constructing a Teacher Candidate via a Practice-Based

New teachers are leaving the profession within the first five years of teaching. A possible cause is that new teachers are coming into the profession unprepared. Working with University of Michigan's TeachingWorks, we have been focused on the high-leverage practice of Eliciting and interpreting individual students' thinking (EIST). We will present how to build EIST through a practice-based approach for our teacher candidates.

Tchr Ed | INT | 203 | Saturday, 9:30 - 10:30 | Asilomar, Heather | BT

Parikh, Harshil — Tuva Labs

Modeling, Functions, and Statistics Pop with Real-World Data

Use real-world datasets and interactive tools to make HS math pop for ALL! In this session, we will explore teaching modeling, functions, and statistics through inquiry-based, highly engaging math lessons using research-based, interactive data and graphing tools. You will take away tons of free resources, like 15 real-world datasets, ready-to-use lessons, and the data and graphing tools to use with your students. Session is particularly relevant to Algebra II, Pre-Calculus, and Statistics teachers.

8-12 | INT | 551 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 33 | BT

Perez, Flor — Alliance College Ready

Using Problems of the Week to Expand Student Thinking

Traditional tasks or assessments tend to focus on only finding the correct programmed answer. As a result, this may discourage student learning and thinking. Problems of the Week or POWs give students the experience to carry out extended investigations of complex problems without the pressure of finding the correct answer. In this session, we will explore the structure of POWs and how to use them to gather evidence of learning while expanding student thinking at all levels.

8-12 | INT | 258 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 23

Petrie, Marc — Willard Intermediate School

Integrating Multiple Activities Using Google Classroom

In this session, participants will use Google Classroom to integrate different mathematical activities that encourage participation, growth mindset, connections through multiple representations, and accessing documents inside and outside the Google Product Suite. Participants will learn how they can increase the amount of activities within a class period through strategic technology, how to use google quizzes to get feedback and encourage discussions about videos and visual images.

6-8 | INT | 302 | Saturday, 11:00 - 12:00 | Asilomar, Kiln

Phillips, Jamie — Pope Valley Union Elem.

Collaborative and Differentiated Routines

Serve all students by providing math routines and activities that promote collaboration, conversation, and differentiation. Your students will become enthusiastic mathematicians! Come experience these activities and begin planning for implementation in your classroom.

PK-2 | INT | 131 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 1 | BT

Picciotto, Henri — MathEducation.page

Connect the Dots! Geoboards Problems for Ages 11 to 99

We will explore a wide range of problems and puzzles on geoboards. (Dot paper works also.) Some provide a hands-on approach to secondary school topics such as slope, the Pythagorean theorem, and simplifying radicals. Some are currently unsolved and are fun to think about. Some are "teacher-level" problems, and fall somewhere in between. Participants will walk away with many ready-to-use activities, suitable for middle school, Algebra 1, Geometry, and their own mathematical recreation.

Gr | INT | 439 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 12 | BT

Lessons from Lew

Lew Douglas, a fellow math educator and frequent Asilomar presenter, passed away in April. Lew delighted in math and developed lessons to allow others to share in that wonder. Come celebrate his life and contributions as we share some of our favorite classroom activities designed or inspired by Lew Douglas: a kinesthetic approach to angles; the pentagram and the golden ratio; symmetric polygons; transformational proof. And of course, bring your own lessons from Lew to share as well!

7-12 | INT | 339 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 12 | BT

Co-presenter: Kim Seashore

We have made every attempt to provide adequate seating for participants at the conference. However, to ensure your safety and adhere to fire regulations, the number of participants allowed in each meeting room will be limited to the number of seats approved by the Fire Marshall. Anyone sitting on the floor or standing will be asked to leave the room. Please check the Program Matrix for the **seating capacity** of each room. All seats are available on a first-come, first-served basis.

**Pickford-Murray, Breeden — The Bay School of San Francisco
Mathematics of Democracy: A Math and Civics Immersive Class**

Ranked choice voting, the electoral college, gerrymandering. What is the function of representation in a democracy? How do groups make decisions? How can individuals impact policy? These are topics and questions from a three-week immersive class combining both civics and mathematics. Learn how students explore the ways in which mathematics can illuminate how we as a society pursue the stated and unstated goals of our democracy and engage in a sample of math and civics activities from the course.

8-12 | INT | 546 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 27

**Pickford, Avery — Lick-Wilmerding HS
Giving Grades When You Don't Believe in Grades**

Grades are an imprecise metric used to rank and compare students and limit access to advanced classes. Acknowledging the limitations of letter grades, how can we create grading models that best align with our values? This session will address how we can push for systemic change while working within the confines of existing systems. Come prepared to hear and share strategies and policies ranging from small tweaks you can implement on Monday to a complete overhaul of how students are evaluated.

8-12 | INT | 444 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 25 | BT

**Post, Barbara — Cal State Fullerton
Using Manipulatives to Assess Geometric Understanding**

Participants will engage in meaningful tasks, which provide opportunities to sort, classify, and organize geometric shapes into a concept matrix. They will defend their reasoning and justify their responses, while using the five practices of productive discussion. This session supports diverse learners by building their mathematical literacy through defining geometric figures by their sides and angles, finding similarities and congruence, and using precise terminology.

6-8 | INT | 441 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 21Lab | BT

Co-presenter: Nita Walker

**Raff, Cynthia — Center for Mathematics and Teaching
Structures and Strategies to Support Struggling Learners**

How can we help struggling learners catch up within a core classroom or in an intervention setting? We will share some research and stories of success from the field. Participants will experience "ready for Monday" engagement strategies within the contexts of proportional reasoning and functions.

6-8 | PRS | 405 | Saturday, 1:30 - 3:00 | Asilomar, Evergreen | BT

**Raman, Sandhya
Co-Teaching in a Culturally Diverse Math Class**

The session will highlight benefits of co-teaching, engaging strategies, station tips, conversation starters and math conversation tips for a co-taught class- or a class where stations are considered a regular feature. What is co-teaching? How does it benefit the students and teachers? How can a co-taught Math class be culturally more responsive? How can co-taught classes address the diverse needs of students? How are Math and Culture connected? What roles do educators play in this connection?

6-8 | INT | 242 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 22 | BT

Co-presenter: Juanita Rodriguez

**Name badges must be worn
at all times while attending the conference.
Badges are required for entry into the
sessions and the exhibit hall.**

Ramos, Jeanne

Math Content, Practices and Language: Make it Routine!

Participants will experience several Mathematical Language Routines developed by the Understanding Language Project at Stanford University. These routines are structured to assist students to access simultaneously the mathematical practices, content and language. Come engage in interactive math tasks and experience selected routines that will enhance students' understanding of important concepts in mathematics, while supporting their academic language development.

6-8 | INT | 306 | Saturday, 11:00 - 12:00 | Asilomar, Scripps Conference | BT

**Raygoza, Mary — Saint Mary's College of California
Using Statistics to Explore Racism and Racial Justice**

This interactive presentation explores the essential question: How can statistical exploration contribute to our understandings of racism and the fight for racial justice? The presenters will discuss, model, and engage participants in discussion of a lesson plan they designed for students that addresses gentrification, racial profiling, and policing. We aim to support diverse students to create a more just world and develop quantitative civic literacy.

8-12 | INT | 236 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 7 | BT

Co-presenter: Laura Gorrin

**Reardon, Tom — Fitch HS, Youngstown State Univ.
Mathematically Model AI Gore's Climate Change Data**

Have your students model the most current data about climate change, see its causes and consequences, and discover the correlations among various sets of data. See what we learned from attending the Climate Reality Project Training with former vice president AI Gore in August for 3 days and from the 4th National Climate Assessment. Obtain all materials: data, student worksheets, teacher notes and solutions. Grade 8 through college. Linear, quadratic, exponential, normal curve, social awareness.

8-12 | INT | 456 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 38 | BT

**Reinhard, Francesca — Elk Grove Unified SD
Reading and Writing and Math, Oh My!**

Learn how to take your students through the process of understanding a task, completing it, creating success criteria, and revising their work. By attending this session you will learn simple EL strategies as well as reading and writing protocols that will flow seamlessly into your math lessons.

6-8 | INT | 535 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 6 | BT

**Resek, Diane — San Francisco State Univ.
What Should You Do When Someone Double Dares You?**

Participants will explore what strategy to use when an opponent asks them to either give up a game and pay the loss or to continue playing the game for double the money. During the session, participants will decide the strategy that produces the best expected value when they have different odds of winning. They will look at the situation through a simulation, then geometrically, and finally using algebra.

8-12 | INT | 442 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 22 | BT

**Roberts, Christine — Tulare COE
A Continuous Improvement Network to Empower All Learners**

Discover how districts are collaborating as a network to positively impact student learning. With a focus on culture and mindset, student-centered instructional practices, and continuous improvement, site teams are supporting the learning of each and every student. Hear from network teachers, coaches, and leaders as they highlight their experiences and key learnings.

8-12 | PRS | 540 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 13

Co-presenter: Nick Lopez

Rocha, Daniel

You Do, We'll Discuss, I'll Connect

Come learn how to flip your teaching script so that critical thinking & problem-solving are at the core of your lesson. I'll share numerous language routines from multiple experts and show you how you can use them in your classroom tomorrow!

6-8 | INT | 539 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 12 | BT

Rodriguez, Lucy — Vaughn Next Century Learning Center

How to Teach Standards-Based Lessons for Social Justice

If math is a tool, what is it a tool for? Traditional forms of teaching perpetuate inequities by placing too much emphasis on memorizing facts and procedures that are not relevant to the students' backgrounds and experiences. Come see how we modified textbook activities to engage students in culturally relevant lessons that focused on issues of social justice while staying aligned to content standards. Tips for implementation and ready-to-use activities will be shared.

6-8 | PRS | 133 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 4 | BT

Co-presenter: *Ivan Cheng*

Roth, Marc

Pie, So-so, and Goose and Pigeon-hole Puzzles

Pie, So-so, and Goose is a Mastermind-like game that can be played in class without special materials. The presenter invented it almost 50 years ago and has been using it ever since. It promotes logical thinking and collaborative problem-solving. It is designed so that making the right guesses may be even more of a challenge than interpreting the hints. Pigeon-hole Puzzles are addition puzzles, but the real challenge is to prove (often using proof by contradiction) that each answer is unique.

6-8 | INT | 550 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 32 | BT

Ryan, Daniel — UC Davis C-STEM Center

Engaging Struggling Math Students with Coding and Robotics

Many students struggle with traditional approaches to math education and end up failing year after year. Join this session to learn how UC Davis C-STEM Math Curriculum for Secondary Schools provides a unique, hands-on approach to engaging students with hands-on physical computing and robotics while learning the CCSS. Learning math with computing can be a cost-effective way to close the math achievement gap and provide basic CS education for all students without adding new courses.

GI | INT | 250 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 32

Schaffer, Karl — De Anza College

How Many Ways to Shake Hands: Counting Movement Sequences

Handshakes are a worldwide custom. Some handshakes are ordinary, some are more unusual. Children are especially creative with handshakes, often inventing complex "secret" handshakes. In this activity we approach handshakes with some fresh questions. What are some new ways to shake hands? How many ways can two people shake hands? How can all pairs of people in a group shake hands? These questions lead us deeply into specific mathematical problems as well as many open-ended movement exercises.

GI | INT | 536 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 7 | BT

BUS SERVICE will run between the Asilomar grounds and Pacific Grove Middle School on Friday from 5:30 - 9:30pm and Saturday from 7:15am - 6:00pm.



Schneider, Craig — Santa Barbara Unified SD

Routines and Games: Promoting Language and Reasoning for All

Come see how mathematical instructional routines and fluency games develop a classroom culture of diverse thinkers and communicators so that All PreK-2nd students (and you) find joy during math time. These routines and games invite students' mathematical practices to come alive by making their thinking about numbers, counting and operations visible. Experience ways to support productive struggle while building on the linguistic diversity of our students to promote mathematical language.

PK-2 | INT | 511 | Saturday, 3:30 - 5:00 | Asilomar, Sanderling | BT

Schultz, Tammy — Tammy Schultz

Encourage, Honor and Investigate Student-Generated

Questions Young mathematicians spend too much time answering someone else's questions. Through the use of video and student work, participants will consider practices that support children in developing and examining mathematical questions of their own.

PK-2 | PRS | 336 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 7 | BT

Schwartz, Anne — Del Lago Academy

Dismantling Systems of White Supremacy in Our Classrooms

Over 80% of teachers in American are white, while our students are increasingly not. Without a conscious effort to decenter whiteness in our classroom and dismantle white supremacy, we exclude over half our students from mathematics. Antiracist work by white teachers must balance actively dismantling white supremacy and decentering whiteness. Join two white teachers as we attempt to recognize, respond to, and reflect upon the role race plays in our schools and classrooms.

GI | INT | 157 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 39

Selby, Victor — Carmel HS (Retired)

Diverse Means Universal: Math as the Language of Science

Every beautiful formula of science is an expression of balance in nature, and mathematics is the language. From Algebra to Calculus, this focus gives the real answer to "when will we ever use this stuff?" This session will give numerous examples of awe-inspiring discoveries, from Archimedes to Einstein, who said "To enter this construction, even to peer through the doorway, is to be enriched." Engage and excite your students with this integrated approach.

8-12 | PRS | 406 | Saturday, 1:30 - 3:00 | Asilomar, Scripps Conference | BT

Sgroi, Richard — Math Teacher (retired)

Math in Context: Advanced Algebra with Financial Applications

Advanced Algebra with Financial Applications is a college-prep, UC "c"-level course offering all students the tools to become mathematically and financially responsible young adults. It employs selected topics in Algebra 2, Precalculus, Probability, Statistics, and Geometry to solve real-world problems in investing, credit, spending, banking, auto/home ownership, employment, taxes, budgets and more. The use of technology and field projects will be explored. Sample lessons will be distributed.

8-12 | PRS | 309 | Saturday, 11:00 - 12:00 | Asilomar, Marlin | BT

Shore, Chris — Temecula Valley USD/The Math Projects Journal

Clothesline Math: Statistics on the Open Number Line

Help students understand the conceptual meaning of various statistical measures without making a single calculation. Learn how this manipulatable tool reveals the critical aspects of statistics to students (and to yourself). Experience statistics like you never have... on an open number. This Master Number Sense Maker will blow your mind... I promise.

8-12 | INT | 434 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 5 | BT

**Sola, Tracy — Silicon Valley Mathematics Initiative
Re-Engagement for our Youngest Learners!**

Re-Engagement combines formative assessment and revisiting a concept from a new angle to deepen understanding while maintaining or increasing cognitive demand. Using actual student work samples, students with fragile understanding get more experience with the concept, and those who understand analyze from a different point of view, through analysis of peers' work. Learn about this equity-based alternative to small group intervention to meet the needs of all learners in a heterogeneous setting.

PK-2 | INT | 315 | Saturday, 11:00 - 12:00 | Asilomar, Triton | BT

**Southam, Jon — New Technology HS
Moving and Talking with Trigonometry and Logarithms**

We think with language and we use language to think. Using this adage as a guiding principle, we will experience simple low-tech activities in which students interact with trig functions and logarithms. We will explore trig outputs and their representations, experience logarithmic scales, and play with slide rules. These activities deliver big learning outcomes when paired with using student voice and movement.

8-12 | INT | 457 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 39 | BT

**Stern, Michael — Wardlaw ES
March Madness: A Mathematical Competition**

The NCAA Basketball Tournament, commonly known as "March Madness," offers an opportunity to review computational skills in a competitive setting. In this activity, each student represents a college and "competes" with another student in his or her bracket. The court of play is math problems dictated by the turn of a playing card. Strategies and luck come into play, but the overall emphasis is on mathematical accuracy. Participants at this session will engage in this exciting event.

6-8 | INT | 416 | Saturday, 1:30 - 3:00 | Asilomar, Nautilus East | BT

**Stier, Sophia — LilMathGirl (Disrupted Domain)
Rethinking the Math Game Through Serious Play**

Children are wired for play. The word play does not imply easy. Participants will teach through play. Get ready to rethink how play can help students find appreciation in math. Build a better foundation in fluency and number sense. Give students a flexible, environment to explore math, more control of their own learning, permission to be wrong, and make mistakes. When kids start to think like mathematicians, they begin to succeed in math.

3-5 | INT | 447 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 28 | BT

**Sulsberger, Megan — Cal State Monterey Bay
STEM-ulating Activities for People and the Planet**

Connect students' growing math and critical thinking skills to the trends shaping the world around them from changing global demographics to carbon emissions to resource management. Engage in simulations, mathematical modeling, measurement and data analysis using current events and real-world data. The presented activities build students' understanding and skills in algebraic patterns and functions, linear measurement, as well as problem solving and representation.

6-8 | INT | 435 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 6 | BT

T-shirts & sweatshirts displaying this year's Asilomar Mathematics Conference logo will be available for purchase in Surf and Sand on Friday and Pacific Grove Middle School Gym on Saturday. Don't miss your opportunity to bring home a memento of your conference participation.



**Tate, Jessika — Deer Valley
Team Projects: A New Angle for Geometry Review**

Hands on projects and collaborative applications help students develop their conceptual understanding of Geometry topics. In this session, we will explore student centered projects and activities that I use in my High School Geometry classes for exploration and review. We will do a "make and take" scale factor project, and explore additional projects that can be used to get students out of the textbooks and into the math.

8-12 | MITI | 260 | Saturday, 9:30 - 10:30 | PGMidS Library A | BT

**Taylor, Matthew — Brooklyn Laboratory Charter School and
Illustrative Mathematics**

Reflections on the Beautiful Journey: Slow Down to Go Fast
Participants will experience reflection and cool down strategies that help consolidate learning and allow for making more mathematical connections. This in turn helps students retain what they have learned regardless of grade level and prior knowledge. Participants will also have opportunity to reflect on and discuss their own use of reflection strategies and purpose. Connections will be made to reflection strategies for activities, lessons, and units. Free online curriculum resources shared.

8-12 | INT | 554 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 36 | BT

**Taylor, Megan — Trellis Education
Asilomar 2.0: What Do We Want to Be?**

Students of Color make up 72.4% of California students, but 32.2% of teachers are People of Color. Not surprisingly, the demographics of this conference are reflective of these statistics, and a majority of the featured speakers are consistently White. Many conferences for teachers are far more representative of and led by Teachers of Color, so we wonder: what will it take for Asilomar to look and sound like our students? Join us for a call to critical discussion, ideation, and action.

GI | INT | 318 | Saturday, 11:00 - 12:00 | Asilomar, Merrill Hall

Co-presenters: Rori Abernethy, Megan Tangonan, Julie McNamara, Rajeev Virmani

**Torres, Angela — San Francisco Unified SD
Supporting Teacher Leadership with an Equity Lens**

Teacher leadership is a key piece of building and sustaining learning communities, and setting team learning goals around equity is no easy task. Hear about our journey in supporting teacher leaders to create team goals, consider ideas of equity, and leverage their learning community as a driver for change. We will share some of the activities, readings, and principles that we have used to support sense making and drive learning among our teacher leaders.

Ldrshp | PRS | 147 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 28

Co-presenter: Elizabeth DeCarli

**Treglio, Carol
Analyze Assessments to Illuminate Strengths**

During this session participants will analyze student data to determine strengths, gaps and misconception of students, then create a plan of action including how to use the MDTP Platform to address gaps and misconceptions for diverse students. Teachers will learn strategies to embrace all learners.

8-12 | INT | 558 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 23 | BT

Co-presenter: Dr. Kim Samaniego

Out of respect for presenters and other participants, please silence or turn off electronic devices during sessions.

Vazquez, Alethea**Twitter: What's Everyone #chirping About?**

Twitter + Math = Free PD. Are you a PD junkie? Do you want to continue your professional development after the conference? Find out how Twitter can support your continued growth as an educator to help you support your students. Learn all the ins and outs about how to get started by finding your online community and following the math gurus. Continue breaking down the walls of your classroom by connecting with others through Twitter chats and utilizing hashtags. #iTeachMath #MTBoS

Tchr Ed | INT | 210 | Saturday, 9:30 - 10:30 | Asilomar, Curlew

Veater, Carl — TCOE**What Data Drives Improvement? Let's Focus on the Right Stuff**

Have you ever given a test and were surprised at how your students did? The good news is that now you have information to help your students be successful. This session will help you look at student work, not through a deficit lens, but with the clear focus necessary to help all student be successful. Let's help all kids see assessment as an opportunity to look at thinking and not about answer getting. We will grapple with the concept of equitable grading practices that make success in.

GI | PRS | 231 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 1 | BT

Vierra, Vicki — Ventura COE (retired)**Fair Shares: Fractions and Diverse Representations**

Understanding fractions must go deeper than cutting up pizzas, cookies and brownies. Build on students' whole number knowledge of equivalency, like units, and fair shares to help them access essential concepts. Encourage sense-making and connections using part/whole, set, and number line models.

3-5 | INT | 409 | Saturday, 1:30 - 3:00 | Asilomar, Marlin | BT

Villeneuve, Julie — Elk Grove Unified SD**The Struggle is Real**

How can we build success with productive struggle for all students within the confines of our adopted curriculum? How do we fit everything in? We will share how we, as critical consumers of our adopted mathematics program, create a classroom culture of problem solving and risk taking, giving agency and voice to all learners. Learn how you can adapt routines and strategies to do the same with your adopted curriculum.

3-5 | INT | 109 | Saturday, 8:00 - 9:00 | Asilomar, Marlin | BT

Co-presenter: Erika Yee

Vriesman, Robert — Mary B. Perry HS**Teaching Mathematics: An Intuitive Approach**

This method of teaching math builds upon a students innate knowledge of math. Rather than procedures and formulas, it guides the student to an intuitive understanding much faster than traditional method. Emphasis is on writing one's own materials.

8-12 | INT | 507 | Saturday, 3:30 - 5:00 | Asilomar, Acacia | BT

Wallace, Matt — UC Davis**Using Mistakes for Learning's Sake**

Students make different kinds of mistakes while doing math. My response to these different mistakes was usually the same. But research has shown that each kind of mistake warrants a different response from the teacher to best advance learning. In this session, I'll share what I've learned about different kinds of mistakes, selecting strategic responses depending on the mistake, and research related to mistakes and student learning. Come learn how to use mathematical mistakes for learning's sake!

GI | PRS | 239 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 12 | BT

Ward, Janene — UCLA**Exploring Relational Thinking Through Counting Collections**

Students across elementary school need multiple, meaningful contextualized opportunities to count, count, and count some more! Join us as we explore how **CANCELLED** Counting Collections provides space for students to use and make sense of fundamental properties of operations while developing and engaging in relational thinking.

3-5 | INT | 508 | Saturday, 3:30 - 5:00 | Asilomar, Toyon | BT

Co-presenters: Jennifer Schexnayder, Doreen Ahadian

Weekes, Timothy — Holy Names Univ.**Decolonizing the Mathematical Mind: CRP and Mathematics**

The rote algorithms that we teach students in K-12 classrooms can become invasive and colonizing mathematical problem-solving strategies that extinguish our students' innate, culturally relevant problem-solving abilities. This workshop will present how Culturally Relevant Pedagogy (CRP) and metacognitive and culturally responsive frameworks for assessing mathematical problem-solving skills, can support the development of mathematical problem-solving identities in under-performing populations.

8-12 | INT | 417 | Saturday, 1:30 - 3:00 | Asilomar, Nautilus West | BT

Wei, Gina — Stanford Univ.**Opportunities to Identify: Teaching for Dignity in Math**

Learning math requires that students have opportunities to see themselves and be seen by others as mathematical doers and knowers. We provide a framework for providing students "opportunities to identify" as people with dignity and competence, who have mathematical ideas worthy of consideration and mathematical lives worthy of exploration, and whose participation is of value to their communities. Come engage in sample tasks from an Integrated Math 1 course that support these goals.

8-12 | INT | 246 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 27 | BT

Co-presenter: Emma Gargotzi

Weinberg, Gloria — Math Solutions**My Students Won't Talk Math, Now What?**

Do you ever wonder why students are reluctant to share in a math conversation? Come to this session to explore reasons why students struggle to talk math. We will engage in a variety of class discussions and structures following mathematical prompts. You will gain tools to use to increase participation by all students, so they all share their thinking and learn from each other. You will have an opportunity to reflect on your experience and consider implementation in your own classroom.

3-5 | PRS | 154 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 36 | BT

Co-presenter: Sarah Brewer

Weker, Ethan — Mid-Peninsula HS**Equity and Justice in the Math Classroom: A Practical Approach**

What does equity REALLY look like in a math class? Let's investigate homework policies (and their impact on student learning and well-being), meaningful and culturally relevant project-based learning experiences, and alternate assessment methods that take advantage of cultural differences and school strengths. Research and case studies indicate these areas of change may improve educational experiences of marginalized students, and all who feel left out or left behind.

8-12 | PRS | 204 | Saturday, 9:30 - 10:30 | Asilomar, Oak Shelter | BT

Although this book contains the latest information available as of the printing deadline, some last-minute **program changes** are inevitable. We apologize for any inconvenience that may result, and we appreciate your understanding.

Wilson, Johnnie — University of California, Santa Cruz
Difference as a Resource to Math Teaching and Learning

In this session we will explore how to turn multilingualism, varied cultural backgrounds and different learning styles into resources for math learning. Lessons from a math program at an international school in Istanbul, Turkey help us understand how play matters to young students, how languages in a classroom can be a resource, how parents' mathematical and cultural experiences should matter to their children, and how quiet and enthusiastic participation may co-exist in a classroom.

GI | PRS | 146 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 27 | BT

Winawer, Marcey

Building Community in the Mathematics Classroom

Our diverse community of math students often enters their classrooms with preconceived ideas of who is going to be successful in math and who is not. During this workshop, we will redefine what it means to have high status in the math classroom. In addition, we will discuss and practice strategies for building communities of math learners in which every student is valued for their own unique strengths as mathematical thinkers. With confidence, students become the agents of their own learning.

8-12 | INT | 248 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 29 | BT

Winicki Landman, Greisy — Cal Poly Pomona

Geoboards as a Medium to Uncover Hidden Connections

High school students have the right (and the need!!) to have fun with mathematics. In this session we will propose several tasks that highlight deep connections among school mathematical ideas. Come ready to tinker with this tools!

8-12 | INT | 446 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 27 | BT

Wolfson, Risa — Escuela Bilingüe Internacional

Mathematical Games and Projects that Celebrate Diversity

Join us for an interactive session exploring activities that will enhance your appreciation of the diverse cultures that have contributed to our understanding of the mathematics. Stations will be set up for games from different countries set in contexts to teach about the development of number systems, and use puzzles to develop problem solving skills. In addition, we will share projects that follow the International Baccalaureate program to develop global citizenship.

6-8 | INT | 345 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 26 | BT

Wood, Andrea — Big Ideas Learning

Let's Give them Something to Talk About

Come learn fun strategies to increase the level of student talk, student understanding, and mathematical discourse in your classroom and relate those strategies to the research of Dr. John Hattie. Participants will learn about and engage in a variety of activities that will promote reasoning, sense making, and student collaboration while speaking, listening, and writing.

3-5 | INT | 256 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 38 | BT

Youngblood, Amy — EduOptimus

Writing Their Way to Understanding

Writing is a powerful tool for processing mathematical thinking. We will explore quality questioning through fraction, multiplication, and division math tasks and how to use prompts to get students to write about their mathematical thinking. We will also explore the Mathematics Language Routines (MLRs) which pair well with writing.

GI | INT | 448 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 29 | BT

#hashtag **CMCMATH**

Zamora, Lupe — Hueneme HS

Promoting Group Work for Increasing Diverse Student Success

This session will provide teachers with ideas on how to design and implement group work in their classroom. Focus will be given on how to foster student collaboration, communication, and critical thinking on a group worthy task.

8-12 | INT | 531 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 1 | BT

Co-presenter: *Terrie Romines*

Zavala, Maria — San Francisco State Univ.

Problem Posing: Shifting Power from Teachers to Students

When students ask questions about their worlds, and make sense of them using mathematics, mathematical authority shifts from teacher/textbook to students. In this session, we build on routines that support students to problem solve and explore techniques and routines for students to problem pose, ie learn math by asking and answering questions rooted in their perspectives and experiences.

GI | INT | 436 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 7 | BT

Co-presenter: *Laurence Tan*

Please stay on the paved pathways that meander through the grounds or the boardwalks that take you on a delightful journey through the dunes. By keeping people off of the vegetation, Asilomar is able to preserve the natural landscape for all to enjoy for many years to come. You might see some paths that look like walking trails, but if they are not paved, they are simply animal trails created by many hooves walking the same route through the grounds. Thank you very much for your cooperation.



Stop by the **CMC-Hub** in Afterglow, Saturday, between 8:00-5:00 and **pick up your swag**, and **your chance to win a \$250 voucher** for any one of our three conferences!

Your feedback is important to us! Please take a moment to complete the **Speaker** evaluation at <http://bit.ly/AsilomarSpeakerEval>



Go to bit.ly/19ConEval to enter to win a **free** registration or **free** housing at next year's conference by completing the **Conference evaluation**.



tea and coffee

Available during the conference at Merrill Hall, Fred Farr and Curlew on Friday and Saturday.

Access & Equity strand will develop Awareness in Equity and Social Justice in Mathematics and The Five Dimensions of Powerful Classrooms encompassing Equitable Access to Content and Agency, Authority, and Identity.

California Association of Mathematics Teacher Educators (CAMTE) brings together a set of speakers whose presentations focus on areas of interest to those involved in pre-service and in-service mathematics teacher education.

Coaching strand will focus on the coaches role in supporting all aspects of the teaching and learning of mathematics.

Each hour during the day different elementary, middle, and high school teachers will share **games** they have been using with their students. There are games for practice, strategy games from the ComMuniCator, and hand games.

Lang & Math focuses on giving students a voice that develops agency that supports students to feel engaged and empowered in their learning.

The **leadership** strand focuses on areas of interest to mathematics teacher leaders and coaches as well as district and site administrators.

In the **Make-It, Take-It (MITI)** strand you can make your own models for classroom projects and activities. Each session is limited to 25 participants. There may be a small materials fee for some sessions.

T-shirts and sweatshirts displaying this year's Asilomar Mathematics Conference logo will be available for purchase in Surf and Sand on Friday and Pacific Grove Middle School Gym on Saturday. Don't miss your opportunity to bring home a memento of your conference participation.



■ **Access & Equity**

Acosta, Kristen
 Albrecht, Masha
 Arndt, Stephen
 Balli, Jessica
 Barlow, Rick
 Berry, Robert
 Biehl, Chuck
 Bourque, Jen
 Brewer, Sarah
 Brown, Alisa
 Brown, Kyndall
 Burnsion, Erica
 Callahan, Patrick
 Campos, Ed
 Chan, Nicholas
 Cheng, Ivan
 Chialvo, Federico
 Clinkenbeard, Jennifer
 Cody, Michelle
 Costa, Elmano
 De La Vega, Daniel
 Dees, Kathryn
 Dimas, Cecilio
 Doherty, Robin
 Erickson, Tim
 Everett, Berkeley
 Fong, Alissa
 Foster, David
 Garcia, Isabel
 Gerodias, Nerissa
 Goldstein, Mark
 Gomez, Emiliano
 Green, Jillian
 Habecker, Duane
 Hagman, Jennifer
 Hakansson, Susie
 Hebert, Tim
 Heiman, Siva
 Horgan, Connie
 Hua, Lyra
 Hurtado, Carolee
 Hurtado, Gloria
 Jackson, Traci
 Jalalpour, Kathleen
 Joyce, Martin
 Kelley, Mary
 Kim, Matthew
 Koester, Mark
 Kong, Ivy
 Krasnow, Allison
 Kysh, Judy
 La Mar, Tanya
 Lahme, Brigitte
 Lamb, Joseph
 Lincoln-Moore, Christina
 Low, Patty

Machmer-Wessels, Keely
 MacMahon, Jeremy
 Mattoon, David
 McCaw, Shannon
 McLean, Peggy
 McMurtry, Whitney
 McNamara, Julie
 Meng, Deborah
 Meyer, Dan
 Moore, Sara
 Morrison, Patty
 Morrow-Leong, Kimberly
 Nank, Sean
 Ortega, Courtney
 Pan, Ravin
 Parikh, Harshil
 Petrie, Marc
 Picciotto, Henri
 Pickford, Avery
 Raff, Cynthia
 Raygoza, Mary
 Reinhard, Francesca
 Rocha, Daniel
 Rodriguez, Lucy
 Ryan, Daniel
 Schultz, Tammy
 Schwartz, Anne
 Selby, Victor
 Sola, Tracy
 Stern, Michael
 Taylor, Megan
 Treglio, Carol
 Veater, Carl
 Vierra, Vicki
 Villeneuve, Julie
 Vriesman, Robert
 Ward, Janene
 Weekes, Timothy
 Wei, Gina
 Weinberg, Gloria
 Weker, Ethan
 Winawer, Marcey
 Zavala, Maria

■ **CAMTE**

Benken, Babette
 Freeburn, Ben
 Leitch, Mark

■ **Coaching**

Burrill, Gail
 Davis, Mary
 Frand, Jason
 Knotts, Angela
 Lakshminarayanan, Geetha
 Roberts, Christine

■ **Games**

Jain, Isha
 Katz, Nova
 Koehler, Valerie
 Resek, Diane
 Roth, Marc
 Stier, Sophia
 Wolfson, Risa

■ **Lang & Math**

Beatini, Tom
 Byron, Ellen
 Daley, Molly
 Dienz, Patricia
 Eisenberg, Gary
 Ford-Salyer, Deborah
 Fox, Amanda
 Franco, Jose
 Gale, Mardi
 Galendez, Maria Lourdes
 Hull Barnes, Lizzy
 Luzniak, Chris
 Nichols, Sue
 Novelli, Barbara
 Phillips, Jamie
 Post, Barbara
 Raman, Sandhya
 Ramos, Jeanne
 Schneider, Craig
 Sgroi, Richard
 Southam, Jon
 Wood, Andrea
 Youngblood, Amy

■ **Leadership**

Allen, Toni
 Flynn, Mike
 Fulton, Brad
 Torres, Angela

■ **MITI**

Babinet, Lisa
 Davis, Rhonda
 Kearney, Jillian
 Mendle, Al
 Moffit, Char
 Newton, Roberta
 Reardon, Tom
 Tate, Jessika

Speaker	Presentation Title (Refer to alpha section for presentation description.)	Target Audience						Beginning Tch.
		K-2	3-5	6-8	8-12	Ldship/ChEd	GI	
Acosta, Kristen	Keep Moving Forward: Raising Our Scores by 10%						√	
Albrecht, Masha	Collaboratively Designed Projects as Authentic Assessment				√			√
Allen, Toni	A Vehicle to Grow and Reculture Teacher Leadership						√	
Ambrose, Rebecca	CGI informed Geometry Instruction: #s + shapes = Thinking		√					
Arndt, Stephen	Support Meaningful Engagement With Instructional Routines			√				√
Babinet, Lisa	An Artistic Approach to Conic Sections				√			√
Balli, Jessica	Do I Reteach or Move On? A 3rd Choice: Re-Engagement Lessons			√				
Barlow, Rick	Moving From Cultural Compliance Towards Cultural Relevance				√			√
Beatini, Tom	Engaging Activities That Emphasize the FUN in FUNctions				√			√
Becker, Joanne	Mathematical Modeling with Functions				√			√
Benken, Babette	Using a Math-focused Tech Course to Support Teacher Learning					√		√
Biehl, Chuck	Computational Geometry: A New Culture of Problem Solvers				√			√
Bourque, Jen	Ancient Number System		√					√
Bower, Travis	Segment: Draw, Command, Program				√			√
Brewer, Sarah	Number Talks: Fractions, Decimals, and Percentages		√					√
Brown, Alisa	Problem Solving Cycle: A Vehicle for Many Drivers of Equity						√	√
Brown, Kyndall	College Access though Data Science (CADS)				√			
Buljan, Mia	Problem Solving in TK-2: The Struggle is Real	√						√
Burnsion, Erica	Value ALL Voices						√	√
Burrill, Gail	Six Strategies for Developing Understanding in Algebra				√			√
Byron, Ellen	Writing Better Math Explanations Using Success Criteria				√			
Cagle, Peg	Leveraging Artifacts of Student Thinking				√			√
Callahan, Patrick	7 Ways to Make Great Mathematical Explanations						√	√
Campos, Ed	Bootstrap: Computer Science and Algebra			√				√
Carlyle, Ann	It Makes Sense! Using Number Paths and Number Lines	√						√
Carter, Krystal	Incorporating Mechanical Engineering into the Math Classroom			√				√
Chan, Nicholas	When High School Students Can't Divide				√			√
Cheng, Ivan	How to Raise Test Scores Without "Teaching to the Test"				√			√
Chialvo, Federico	Liberating Mathematics					√		
Clinkenbeard, Jennifer	Gummy Bear Government: Discovering Equitable Representation		√					
Cody, Michelle	Luis, Jin and Ebony? Creating Real Culturally Relevant Math			√				√
Connelly, Ralph	Making Minutes Matter			√				√
Costa, Elmano	Embracing Linguistic Diversity: Challenging but Possible		√					√
Daley, Molly	Mathematizing Spaces: Making our Schools Math Curious Places	√						√
Damm, Suzanne	Hands-on Conceptual Fraction Activities		√					√
Davis, Mary	Real Classrooms with Real Opportunities for Shared Learning						√	√
Davis, Rhonda	OMG! Math Graphic Organizes!		√					√

Speaker	Presentation Title (Refer to alpha section for presentation description.)	Target Audience						Beginning Tch.
		K-2	3-5	6-8	8-12	Ldship/TchEd	GI	
De La Vega, Daniel	Teacher Clarity with Learning Intentions & Success Criteria				√			√
Dees, Kathryn	Connecting Mathematics Ideas Using Representations						√	√
Dickenson, Patricia	Connecting Math and Social Emotional Learning		√					√
Dienz, Patricia	Supporting English Learners in Secondary Mathematics				√			√
Dimas, Cecilio	Re-humanizing Mathematics Instruction Using Re-engagement						√	
Doherty, Robin	Journaling Math Talks			√				√
Eisenberg, Gary	Singing, Dancing, and Playing Through K-3 Mathematics	√						√
Engle, Matthew	Bringing Similarity to Light			√				√
Erickson, Tim	Opening a Door to Data Science: Exploring Income Inequality				√			√
Everett, Berkeley	Hack the Hidden Message	√						√
Fenton, Michael	The Desmos Dashboard: A Love Letter to the Five Practices						√	
Fetter, Annie	Two Structures for Looking at Student Work		√					√
Flynn, Mike	Powerful Math Moments: Why Certain Experiences Stand Out						√	√
Fong, Alissa	What Do I Say Now?: Responsive Facilitation of Small Groups				√			√
Ford-Salyer, Deborah	Culture + Books + Math = Literacy for All						√	√
Fossum, Nolan	Put the Power of Discovering Conics in the Students' Hands				√			√
Foster, David	Why Your SBAC Scores are Flat and What to Do About It						√	
Fox, Amanda	Math = les mathématiques = ?		√					√
Franco, Jose	Supporting English Learners in Mathematics K-5					√		√
Frاند, Jason	New Instructional Tools to Teach Word Problems			√				
Freeburn, Ben	Learning from Rehearsals of Mathematics Teaching Practices					√		
Frost, Bernard	How to Survive Teaching Mathematics in 2019 and Beyond!						√	√
Fulton, Brad	Teaching Math More Effectively			√				
Gale, Mardi	Launching Tasks for Access and Attending to Diversity						√	√
Galendez, Maria Lourdes	MRWC: Building Up High School Students Number Sense				√			√
Garcia, Isabel	Grading for Equity: Proficiency-Based System for All				√			√
Gerodias, Nerissa	Transformations and Desmos for Culturally Diverse Classrooms				√			√
Goldstein, Mark	Essentials to Get Struggling Middle-Schoolers Back on Track			√				√
Gomez, Emiliano	Equitable Placement and Support: Tools and Recommendations						√	√
Graziano, Jennifer	Senior Year Math Courses: Supporting Student Success				√			
Green, Jillian	Cryptography For Students Around the World				√			√
Guzik, Randy	Math History for Enhanced Learning and Cultural Appreciation						√	
Habecker, Duane	Using Math Language Routines for Students with Disabilities						√	√
Hagman, Jennifer	The Mathematical Art of Storytelling		√					√
Hakansson, Susie	Incorporating Equity into the Lesson Study Process						√	√
Hebert, Tim	Reasons for Routine-ing: Better Learning for More Learners	1					√	√
Heiman, Siva	Do You Have These 2 Questions?	√						√
Henderson, Kathy	Do You Desmos? Dynamic Geometry Tools for Your Classroom						√	√
Horgan, Connie	Promoting Discourse in Middle School			√				√

Speaker	Presentation Title (Refer to alpha section for presentation description.)	Target Audience						Beginning tchr.
		K-2	3-5	6-8	8-12	Lds/pt/rcthd	GI	
Hua, Lyra	Building Agency: Helping Students Deal with Math Anxiety				√			√
Hull Barnes, Lizzy	Learning from Our Language Learners in San Francisco					√		√
Hurtado, Carolee	Driving While Brown: Using Mathematics as an Analytical Tool			√				√
Hurtado, Gloria	Journaling a Math Talk			√				√
Jackson, Traci	Want Productive Math Groups? The Writing's on the Wall				√			√
Jain, Anjali	Interdisciplinary Research in AP Statistics with Minitab				√			√
Jain, Isha	Project: Mathematics through Settlers of Catan!			√				√
Jalalpour, Kathleen	Teaching Word Problems						√	√
Joyce, Martin	Making Math Accessible with Anchor Charts			√				√
Katz, Nova	Building Concrete Visual Patterns: One Block at a Time!						√	√
Kearney, Jillian	Coding into the Future: Projects for Middle School Math			√				√
Kelley, Mary	Digitizing Math in the K-2 Classroom	√						√
Kim, Matthew	From Paper to Pixels: How to Desmo-fy Your Math Lessons				√			√
Knotts, Angela	I Need to See It: Classroom Video Cases in Teacher PD					√		
Koehler, Valerie	Gamify Your Math Class with Digital Breakouts!			√				√
Koester, Mark	Connecting Algebra and Geometry through Historical Texts				√			√
Kombe, Dennis	Nudging Students' Thinking in Elementary Math		√					√
Kong, Ivy	Bringing Equity and Access With Changes You Can Make			√				√
Krasnow, Allison	Rooting Math Intervention in Sense-Making			√				√
Kysh, Judy	Diversity Requires Alternative Forms of Formative Assessment				√			√
La Mar, Tanya	Prioritizing Math Practices In Heterogeneous Classrooms				√			√
Lahme, Brigitte	What's a Pink Tax? Modeling Math that Impacts Our Lives			√				√
Lakshminarayanan, Geetha	Using Classroom Video for Teacher Coaching					√		
Lamb, Joseph	Notice and Wonder: A Culturally Responsive Routine	√						√
Langbort, Carol	Spatial Visualization Activities: Tangrams and Pentominoes		√					√
Leitch, Mark	Playful Mathematics Through Unsolved Problems			√				√
Low, Patty	Fractions: A Gatekeeper to Algebra		√					√
Luberoff, Eli	Creating Interesting Ways for Students to be Right and Wrong						√	
Lundgren, Brian	Fight the Plateau: Take Control of Your Personal PD						√	√
Luzniak, Chris	Up for Debate! An Introduction to Debate Routines in Math						√	√
Machmer-Wessels, Keely	Practicing the Five Practices			√				
MacMahon, Jeremy	Changing Math Learning Trajectories of Under-served Students				√			√
Mattoon, David	Context and Manipulative for Equity in Expressions and Equations			√				√
McCaw, Shannon	Bridging the MS Math Equity Gap through Collaboration			√				
McClain, Maria	From One to Infinity: The Limit of the Riemann Sum				√			√
McConnell, Jenny	Honey, I Blew Up the...			√				√
McLean, Peggy	Connecting Multiplication and Division Concepts		√					√
McMurtry, Whitney	A Differentiated Test: Encouraging Student Voice and Choice			√				√
Mendle, Al	Creativity and Elementary Math Are Not Mutually Exclusive		√					√

Speaker	Presentation Title (Refer to alpha section for presentation description.)	Target Audience						Beginning Tch.
		K-2	3-5	6-8	8-12	LdsHp/TchEd	GI	
Meng, Deborah	Growth Mindset+Daily Math Routines= Equity and Access	√						√
Meyer, Dan	Designing for Belonging						√	√
Moffit, Char	Children’s Literature as a Tool in Mathematics Learning	√						√
Moore, Sara	Multiplication Isn’t Commutative: Lessons from the Sandbox		√					
Morrison, Patty	Integrating Literature into Math Pre-k to First	√						√
Morrow-Leong, Kimberly	Mathematizing Problems that Matter to Your Students						√	√
Mulhearn, Dennis	Exciting, Effective Problems to Teach Area in Grades 3-5		√					√
Nank, Sean	Student Discourse: How Do We Really Make it Meaningful?				√			√
Newell, Chrissy	See it, Move it, Grasp it: Math with Virtual Manipulatives	√						√
Newton, Roberta	Counting is More Than 1,2,3	√						√
Nichols, Sue	International Space Station Microgravity: Mass vs Weight			√				√
Novelli, Barbara	Helping Students Make Important Connections in Number Sense	√						√
Nur, Laila	There’s Greatness In You						√	√
Orabi, Laura	Making Problem Solving Meaningful		√					√
Ortega, Courtney	Access and Agency: Making the Most of Math Content Routines			√				√
Orton, Chase	Demystifying Calculus for K-8 Teachers		√					√
Pan, Ravin	Constructing a Teacher Candidate via a Practice-Based					√		√
Parikh, Harshil	Modeling, Functions, and Statistics Pop with Real-World Data				√			√
Perez, Flor	Using Problems of the Week to Expand Student Thinking				√			
Petrie, Marc	Integrating Multiple Activities Using Google Classroom			√				
Phillips, Jamie	Collaborative and Differentiated Routines	√						√
Picciotto, Henri	Connect the Dots! Geoboards Problems for Ages 11 to 99						√	√
	Lessons from Lew			√	√			√
Pickford-Murray, Bredeen	Mathematics of Democracy: A Math and Civics Immersive Class				√			
Pickford, Avery	Giving Grades When You Don’t Believe in Grades				√			√
Post, Barbara	Using Manipulatives to Assess Geometric Understanding			√				√
Raff, Cynthia	Structures and Strategies to Support Struggling Learners			√				√
Raman, Sandhya	Co-Teaching in a Culturally Diverse Math Class			√				√
Ramos, Jeanne	Math Content, Practices and Language: Make it Routine!			√				√
Raygoza, Mary	Using Statistics to Explore Racism and Racial Justice				√			√
Reardon, Tom	Mathematically Model Al Gore’s Climate Change Data				√			√
Reinhard, Francesca	Reading and Writing and Math, Oh My!			√				√
Resek, Diane	What Should You Do When Someone Double Dares You?				√			√
Roberts, Christine	A Continuous Improvement Network to Empower All Learners					√		
Rocha, Daniel	You Do, We’ll Discuss, I’ll Connect			√				√
Rodriguez, Lucy	How to Teach Standards-Based Lessons for Social Justice			√				√
Roth, Marc	Pie, So-so, and Goose and Pigeon-hole Puzzles			√				√
Ryan, Daniel	Engaging Struggling Math Students with Coding and Robotics						√	
Schaffer, Karl	How Many Ways to Shake Hands: Counting Movement Sequences						√	√

Speaker	Presentation Title (Refer to alpha section for presentation description.)	Target Audience						Beginning tchr.
		K-2	3-5	6-8	8-12	Lds/pt/rcthd	GI	
Schneider, Craig	Routines and Games: Promoting Language and Reasoning for All	√						√
Schultz, Tammy	Encourage, Honor and Investigate Student-Generated Questions	√						√
Schwartz, Anne	Dismantling Systems of White Supremacy in Our Classrooms						√	
Selby, Victor	Diverse Means Universal: Math as the Language of Science				√			√
Sgroi, Richard	Math in Context: Advanced Algebra with Financial Applications				√			√
Shore, Chris	Clothesline Math: Statistics on the Open Number Line				√			√
Sola, Tracy	Re-Engagement for our Youngest Learners!	√						√
Southam, Jon	Moving and Talking with Trigonometry and Logarithms				√			√
Stern, Michael	March Madness: A Mathematical Competition			√				√
Stier, Sophia	Rethinking the Math Game Through Serious Play		√					√
Sulsberger, Megan	STEM-ulating Activities for People and the Planet			√				√
Tate, Jessika	Team Projects: A New Angle for Geometry Review				√			√
Taylor, Matthew	Reflections on the Beautiful Journey: Slow Down to Go Fast				√			√
Taylor, Megan	Asilomar 2.0: What Do We Want to Be?						√	
Torres, Angela	Supporting Teacher Leadership with an Equity Lens					√		
Treglio, Carol	Analyze Assessments to Illuminate Strengths				√			√
Vazquez, Alethea	Twitter: What's Everyone #chirping About?					√		
Veater, Carl	What Data Drives Improvement? Let's Focus on the Right Stuff						√	√
Vierra, Vicki	Fair Shares: Fractions and Diverse Representations		√					√
Villeneuve, Julie	The Struggle is Real		√					√
Vriesman, Robert	Teaching Mathematics: An Intuitive Approach				√			√
Wallace, Matt	Using Mistakes for Learning's Sake						√	√
Ward, Janene	Exploring Relational Thinking Through Counting Collections		√					√
Weekes, Timothy	Decolonizing the Mathematical Mind: CRP and Mathematics				√			√
Wei, Gina	Opportunities to Identify: Teaching for Dignity in Math				√			√
Weinberg, Gloria	My Students Won't Talk Math, Now What?		√					√
Weker, Ethan	Equity and Justice in the Math Classroom: A Practical Approach				√			√
Wilson, Johnnie	Difference as a Resource to Math Teaching and Learning						√	√
Winawer, Marcey	Building Community in the Mathematics Classroom				√			√
Winicki Landman, Greisy	Geoboards as a Medium to Uncover Hidden Connections				√			√
Wolfson, Risa	Mathematical Games and Projects that Celebrate Diversity			√				√
Wood, Andrea	Let's Give them Something to Talk About		√					√
Youngblood, Amy	Writing Their Way to Understanding						√	√
Zamora, Lupe	Promoting Group Work for Increasing Diverse Student Success				√			√
Zavala, Maria	Problem Posing: Shifting Power from Teachers to Students						√	√

We have made every attempt to provide adequate seating for participants at the conference. However, to ensure your safety and adhere to fire regulations, the number of participants allowed in each meeting room will be limited to the number of seats approved by the Fire Marshall. Anyone sitting on the floor or standing will be asked to leave the room. Please check the Program Matrix for the **seating capacity** of each room. All seats are available on a first-come, first-served basis.

Exhibits

Company	PG Middle Gym	Company	PG Middle Gym
Bay Area Teachers and Mathematics	276	ExploreLearning	265
Bedford, Freeman & Worth High School Publishers	252	Get More Math!	234
California Casualty Auto and Home Insurance	217	Heinemann Publishing	231-232
California Jump\$tart	244	Ignited	255
California School Library Association	258	McGraw-Hill Education	241
California Teachers Association	235	MOEMS - Math Olympiads for Elementary and Middle Schools	236
Center for Math and Teaching	239	Mountain Math/Language	254
Charging Station	224	National Council Teachers of Mathematics	211-212
CMC ComMuniCator	203-202	National Geographic Learning/Cengage	271-274
CMC-N Exhibits	214	National University	242
CMC-N Bag pick-up	205	Next Gen Math	221
CMC-N Mini grants	213	Pearson K-12 Learning	227-229
CMC-N T-Shirts	261-262	Rest Area	204
Connect Core Math	218	Rest Area	233
CPM Educational Program	247-249	Rest Area	243
CSU/UC Mathematics Diagnostic Testing Project (MDTP)	238	SLAC National Laboratory	266
Cubes and Things	251	ST Math (by MIND Research Inst.)	219
Curriculum Associates	264	Stenhouse Publishers	267
Curriculum That Matters, Inc.	256	Texas Instruments	216
DreamBox Learning	226	The Math Learning Center	206-208
EdGems Math	245-246	The Outstanding Mastery Guides	222-223
Equation Quest	257	TODOS	237

Pacific Grove Middle School
Friday, 6:00 - 7:30pm **and** Saturday, 7:30am - 4:30pm
Saturday, Drawing at 3:00pm

Exhibits close promptly at times listed above so visit early!

Name badges must be worn at all times while attending the conference. Badges are required for entry into the sessions and the exhibit hall.

WIN AN AWESOME PRIZE!

Bring the six tickets included with your registration sheet to the PGMS Gym. Check out the exhibits and choose which drawing boxes to drop them. Thanks to the exhibitors offering various prizes! Make sure to check your texts, the app, or the exhibits Saturday afternoon to see if you've won.



Must pick up prize by 4:30pm!

271	272	273	274	275	276	277
National Geographic Learning/Cengage					Bay Area Teachers Math	

**EXIT
LADIES
ROOM**

209
208 The Math
207 Learning
206 Center

219 S T Math	229 Pearson
218 Connect Core Math	228 Pearson
217 Calif Casualty	227 Pearson
216 Texas Instruments	226 DreamBox Learning
215	225

239 Center for Math Teaching	249 CPM
238 CSU/UC Math Diag	248 CPM
237 TODOS	247 CPM
236 MOEMS Math Olympiads	246 EdGems
235 CTA	245 Math

258 Calif School Lib
257 Equation Quest
256 Curriculum That Matters
255 Ignited

ENTRANCE

205 CMC-N Bag pickup
204 Rest Area

214 CMC-N Exhibits	224 Charging Station
213 CMC-N Grants	223 Outstanding Mastery

234 Get More Math	244 Californai Jump\$tart
233 Rest Area	243 Rest Area

254 Mountain Math
253

203
CMC
CoMmuniCator

212 National Council of Teachers of Math	222 guides
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232 Heineman	242 National University
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252 Bedford Freeman Worth

202
CMC
CoMmuniCator

211 Teachers of Math	221 Next Gen Math
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231 Publishing	241 McGraw Hill
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251 Cubes and Things

261 CMC-N	262 T shirts	263	264 Curriculum Associates	265 Explore Learning	266 SLAC National Lab	267 Stenhouse Publishers
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**EXIT
MEN'S
ROOM**

Award | Nominations

It is time to nominate those individuals who might be recognized for their contributions to mathematics education. CMC has three awards:

1 The **George Polya Memorial Award** may be conferred upon a teacher K-16, who has been deemed as an outstanding teacher of mathematics over a sustained period of time, has supported CMC activities, has been an active participant in CMC, and has high visibility throughout the state of CA.

2 The **Edward Begle Memorial Award** may be conferred on an educator who has, for a sustained period of time, been supportive of CMC activities, has offered continual encouragement, and has been actively involved in California mathematics.

3 The **Walter Denham Memorial Award** may be presented to a person who is recognized as an advocate for mathematics education, not only at the local level, but also at the broader state and national levels.

For more information about the nomination process, check the CMC-Math website under Awards and Recognition. Nominations are due May 1, 2020.

2019 PAEMST Award | Finalists

The Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST) are the nation's highest honors for teachers of mathematics and science. Since 1983, more than 4,800 teachers have been recognized for their contributions in the classroom and to their profession. This year the state panel has selected three 7-12 teachers to go forward as finalists in mathematics. A national panel of distinguished mathematicians and educators make the final recommendation to the White House and one of the three will be selected to receive the award for California. The three finalists are:



Ms. Holly Brown

Holly is a middle school STEM teacher at Moreland Middle School in the Moreland School District in San Jose. She has been teaching for 10 years. She has previously taught 7th grade math, and 6th grade math and science. She has been trained in Project Lead the Way and has now transitioned into teaching Introduction to Computer Science and Automation and Robotics. The lesson she taught was part of the Automation and Robotics curriculum where students explored how to calculate and analyze gear ratios to determine how the speed and torque of a machine changes.

Ms. Maria Garcia

Maria is an 8th grade Algebra 1 teacher at Dana Middle School in the Wiseburn School District in El Segundo. She has been teaching for 19 years and is currently the Math Department Chair. The lesson Maria submitted helped students discover patterns in quadratics leading to conceptual understanding of completing the square. In addition to her teaching schedule, she hosts Math Saturday Events for parents and students. She has created the Girls Who Code Club at her school. This year she launched a Hack-a-Challenge in which students from grades 5-12 came together and worked on building/creating a robot that could successfully clean the surrounding beaches in the community.

Mr. Brian Shay

Brian teaches at the Canyon Crest Academy in the San Dieguito Union High School District in Encinitas, California. He has been teaching 17 years. He is currently Math Department Chair. He has taught all math courses from Algebra 1 and Integrated Math 1 to AP Calculus BC and Calculus 3/Linear Algebra. The lesson he taught was discovering patterns to develop the Taylor Series, one of the unifying ideas of Calculus. Not only has Brian been a frequent speaker at conferences throughout California and the country, he was the Program Committee Chair for the California Math Council South Conference, as well as the 2019 NCTM Annual Meeting. In 2014, he received the MIT Inspirational Teacher Award and in 2016 he received an award for Distinguished Mathematics Teaching from the Mathematical Association of America.

For more information about awards, or to nominate, visit Presidential Awards at cmc-math.org/paemst-awards

If you know a great math teacher, go to the PAEMST portal to nominate a K-6 teacher of mathematics for the 2020 award. Computer Science teachers may also apply. To nominate a teacher or to download an application for yourself visit www.paemst.org. The nomination period is open until March 1, 2020 and the application must be completed by May 1, 2020.

California Mathematics Council — North
CERTIFICATE OF ATTENDANCE

is hereby granted to

in recognition of attendance and participation at the

*CMC-N Mathematics Conference at Asilomar
Pacific Grove, CA | December 6-8, 2019*

Rita Nutsch
Rita Nutsch, CMC-N President



T-shirts & sweatshirts displaying this year's Asilomar Mathematics Conference logo will be available for purchase in Surf and Sand on Friday and Pacific Grove Middle School Gym on Saturday. Don't miss your opportunity to bring home a memento of your conference participation.



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CALL FOR SPEAKERS

CMC-North 63rd Annual Conference

Asilomar and Pacific Grove Middle School, Pacific Grove

Powerful Mathematics – Perseverance through Productive Struggle

December 4-6, 2020

Proposals will be accepted online at www.cmc-math.org/activities/north_speakers.html from January 30 to May 1, 2020. We welcome new and returning speakers to submit proposals. Speaking at a conference is a great way to share your ideas and expertise with your colleagues.

For further information, please contact: Julie McNamara at northprogram@cmc-math.org.

CMC STUDENT ACTIVITIES TRUST

Tax Deductible Contribution

Remember your year-end tax deductible contribution to the CMC Student Activities Trust Fund. So far we've spent \$200,000 to support student activities throughout California since 1983. All contributions should be mailed to:

Chris Tsuji
CMC Student Activities Trust Fund
670 Choctaw Drive, San Jose, CA 95123

Applications

Many of the past activities supported have been math fairs and various math contests, however funds are not limited to these two type of events. For information on how to apply for these funds to support student activities in mathematics, visit www.cmc-math.org/awards, or www.cmc-math.org/awards-grants-scholarships or contact **Bernadette Salgarino** at bernadette.salgarino@gmail.com

Board Members

2019-20	State	President.....Cathy Carroll	President.....Rita Nutsch
		Past President.....Vicki Vierra	Past-President.....Rebecca Lewis
2020-21	State	President-Elect.....Christine Roberts	President-Elect.....Sarah Ives
		Secretary.....April Goodman-Orcutt	Vice President.....Monica Rock
2019-20	North	Treasurer.....Bruce Gripp	Secretary.....Alison Nash
			Treasurer.....Brian Lim
2020-21	North	President.....Christine Roberts	President.....Sarah Ives
		Past President.....Cathy Carroll	Past-President.....Rita Nutsch
2019-20	North	President-Elect.....Bruce Grip	President-Elect.....Mary Ann Sheridan
		Secretary.....Christina Lincoln-Moore	Vice President.....Julie McNamara
2020-21	North	Treasurer.....Scott Ellingson	Secretary.....Alison Nash
			Treasurer.....Brian Lim

Calendar of Math Events



March 13-14, 2020

CMC Central Mathematics Symposium

March 30-April 1, 2020

NCSM Annual Conference, San Diego, CA

April 1-4, 2020

NCTM Annual Conference and Exposition, San Diego, CA

November 6-7, 2020

CMC South Mathematics Conference, Palm Springs, CA

December 4-6, 2020

CMC North Mathematics Conference at Asilomar, Pacific Grove, CA

For information and links to these math events go to:

www.cmc-math.org

Affiliated Groups

Contact your local affiliate to find out more about their organization and become involved at a local level!

California Math Council to the Far North (CMCN ∞)
Gwen Neu gneu3@gmail.com

Sacramento Area Math Educators (SAME)
Brian Lim, blim128@yahoo.com

Math Educators of Solano County (MESOC)
Julie Crozier, crozier4mesc@aol.com

Mt Lassen Math Council (MLMC)
Catherine Thompson, cc91thompson@gmail.com

Monterey Bay Math Council (MBMC)
Denise Green, abbasd09@gmail.com
James Schierer, jschierer@smcjuhsd.org

Alameda Contra Costa Council of Mathematics Educators (AC3ME)
Paul Juarez, pj.juarez@gmail.com
Tim Weekes ac3mathed@gmail.com

Sonoma County Math Council (SCMC)
Joan Easterday, jeasterday@scoe.org

Exhibits

Be sure to make time in your schedule to visit the exhibits at the Pacific Grove Middle School Gym. You'll find a remarkable collection of mathematics education books, curriculum materials, teaching resources, games, manipulatives, and technology and services. Exhibit hours allow ample opportunity to explore, try out, and purchase product/services for use in your classroom or to help you meet your career goals. You'll also have the opportunity to get fresh ideas, valuable information and resources and to see demonstrations of how products work. Be sure to check the list of exhibits and map of the exhibit hall on page 38.

In Memoriam

Lew Douglas, Math Educator



July 28, 1944 - April 22, 2019

Lew grew up in Forest Hills, Queens, the son of Jessie Nayer and Fields Medal winning mathematician Jesse Douglas. After losing his mother to a car accident at age 12, he was raised by his aunt Frieda and uncle Hans and their son Charles Adler. He attended Forest Hills High School and Princeton University before heading West for postgraduate study at the University of California at Berkeley. In 1969, Lew married Elaine Peters and left the PhD program early with a Masters degree in Mathematics to pursue what would become his lifelong passion to teach.

With his wife and one month old son Jason, Lew moved to Carmel Valley, CA in 1970 and started his first teaching job at the York School in Monterey. York (1970-79) was followed by Head-Royce (1979-82) and the College Preparatory School (1985-2007), both in Oakland.

Lew spent his career continually experimenting with and evangelizing new and better ways to teach math, often spending his summers on curriculum development as well. He was a frequent presenter at CMC North in Asilomar and organized professional development workshops for math teachers. After he was no longer teaching full-time, he continued his life's work as a co-director for the Bay Area Math Project at the Lawrence Hall of Science.

While Lew was extremely devoted to his work, he always found time for his other lifelong passions of gardening, folk dancing, and community activism. A prolific gardener who always had fruit and vegetables to share, Lew also loved to be "Uncle Lew" for countless kids in his life, including the daughters of his cousin Louise Nayer and the nieces and nephews of his late wife Gail Cohen, who passed away in 2004.

Lew performed for many years, locally and overseas, with Westwind International Folk Ensemble and Jubilee American Dance Theater. Dance provided community for Lew and was the source of many of his deepest friendships. It was through dance that he found love again with his third wife, Diana Greenleaf.

Starting as an undergraduate when he proudly joined Martin Luther King Jr's March on Washington, Lew was a relentless activist for a better world. While he was very concerned with global issues like climate change and population growth, he was always most active locally - whether it was getting trees planted in his neighborhood or campaigning for his local candidates or working for years on one of his proudest political accomplishments - the passage of the California DISCLOSE Act of 2017, which made political advertising funding more transparent.

His many passions, especially that of his work, usually enabled him to keep his depression at bay and for the vast majority of his life he was happy and engaged. His most recent work on math curriculum, with collaborator Henri Picciotto, can be seen at <https://www.mathed.page/transformations>. For the past several years, he was leading and helping to reenergize ACCCME, the CMC affiliate in Alameda and Contra Costa County. A math memorial for Lew was held this fall. Over 30 math teachers packed into a classroom in Berkeley, and participated in activities designed by Lew.

He will live on in many classrooms.

THE LURIE CENTER SCHOLARSHIP

The California Mathematics Council supports three annual scholarships honoring the memory of Lurie Center who dedicated her career as a teacher to improving the mathematical literacy of students. This award will enable three teachers of color (one from each CMC section) to attend any CMC section conference.

This Lurie Center Scholarship will cover up to \$500 in conference expenses such as room, board, travel, and instructional materials (with no more than \$100 of the award to be used for instructional materials). Each awardee will also receive complimentary conference registration and a one year subscription to the ComMuniCator with CMC membership.

Criteria: ✓ K-14 teacher of color ✓ Teaching assignment includes mathematics ✓ Commitment to help students learn mathematics

The application is due on May 1st each year. Check the CMC website for more information. CMC-South members should also check on The Lurie Center Elementary Teaching Award, which has different qualification criteria.

If you enjoyed this conference and want to attend another CMC section conference, consider filling out an application next year!

STAY CONNECTED WITH CMC

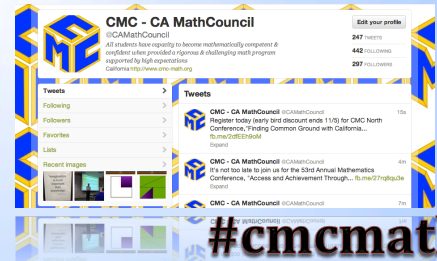
www.facebook.com/CAMathCouncil



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facebook



@CAMathCouncil



www.cmc-math.org



The 62nd Annual CMC - North Conference Committee wishes to thank all of the speakers for contributing to an amazing conference.

Continuing Education Units

SPECIFICS:

Course Title: **California Mathematics Council North Annual Conference**

Course Code: **19F EDU 870B 01**

CEUs: **1.5**

Course Fee: **\$65**

Date: **12/6/19 - 12/8/19**

- Earn 1.5 CEU (Continuing Education Units) for your Asilomar participation.
- Units are from **College of Continuing Education at Sacramento State University**. Generally it cannot be applied toward a degree program, but can be used as:
 - professional growth units for your credential, and,
 - district credit for step advancement. Check with your district regarding its policy on accepting these units.
- Credit will be given in the Spring Semester. Grades will not be available until May 2020. Please do NOT call before that time. After February 1, 2020 you may send an e-mail to be sure your materials were received.
- Grades are CR/NC only.
- You must complete each of the requirements below.

REQUIREMENTS:

- ✓ Register for the conference.
- ✓ Attend the opening session Friday evening 7:30-9:00 p.m. at Pacific Grove Middle School Auditorium.
- ✓ Attend at least three sessions on Saturday, visit either exhibit area, and attend a Sunday closing session.
- ✓ Type a paper as described below. Save a tree: single spacing is fine. Include your name, address and phone number on it in case of problems.
- ✓ Complete the **Registration Agreement** and mail with credit card information or your check for \$65.00 (payable to CSUS College of Continuing Education) with your paper to Brian Lim by December 31, 2019.

PAPER:

1. Submit a two-part paper. In the first part devote a paragraph or more to each session you attended. Include details on the title, speaker, ideas, activities, and theme(s). Then, in the second part, reflect on how the conference affected your thinking about math, How has it affected your classroom? How do you believe it will affect it in the future? What common themes did you see throughout the conference? This part should be at least 1 or 2 pages.
2. If you prefer, the two parts above can be combined into one using a more narrative style.

REMEMBER:

The paper must exhibit a great deal of reflection, and must not be just a chronicle of how you spent your weekend.

Mail the registration form, payment, and paper in a single packet by December 31, 2019 to:

CMC, Attn: Brian Lim
PO Box 234
Kentfield, CA 94914

Download form at
<http://cmc-math.org/temp/wp-content/uploads/2016/09/2017-Registration-Agreement.pdf>

Contract Education Program
Registration Agreement

SACRAMENTO STATE
COLLEGE OF CONTINUING EDUCATION

For CEU/Non-Credit Courses

Please submit registration form to: College of Continuing Education, 3000 State University Drive East, Sacramento, CA 95819-6103 Attention: Information and Registration Services.
For your convenience you may also phone in your registration to (916) 278-4433.

- Registration and payment must be received no later than two weeks following the last class meeting.
- Please check with your district office regarding whether or not they will accept these units toward salary advancements.
- Refund requests will not be accepted. This policy applies to all non-credit, and CEU contract courses.
- For more information on the College of Continuing Education refund policy please go to www.cce.csus.edu.

PLEASE PROVIDE THE FOLLOWING INFORMATION:

Name - Last _____ First _____
Home Address (Number, Street, Apt.) _____
City _____ State _____ Zip _____
Occupation _____
Home Phone _____ Work Phone _____
E-mail _____
Birthday _____ Sex Male Female
Highest level of education completed:
 High School A.A. B.A./B.S. M.A./M.S. Ph.D.
 Trade School/Other Some College

5-DIGIT COURSE CODE	COURSE TITLE	DATES
19F EDU 870B 01	California Mathematics Council North America:	12/6/19 - 12/8/19
	Annual Conference	

PAYMENT
 Check - payable to CSUS College of Continuing Education
 Visa
 Master Card
 Discover

Card Number _____
Expiration Date _____
Amount _____
Name of Cardholder _____
Cardholder's Signature _____

All courses, instructors, locations and fees are subject to change or deletion without notice.

California Mathematics Council - Northern Section

Purpose:

CMC-N wishes to encourage creativity and innovation among Northern California educators for the purpose of developing mathematically powerful students.

Who May Apply:

CMC-N members from any public or private school or district whose membership has been paid for the current school year.

Requirements:

- √ Can only apply once per school year
- √ Should have additional sources of funding
- √ Application completed in full

Deadlines:

November 1 – up to \$500 **and** March 1 – up to \$500

Application:

1. Title Page

- a. Title of Grant
- b. Name of Grant Leader, CMC Member #, home phone and home email
- c. School name, address, fax and email
- d. Grant impact – number of students, teachers and percent members of minorities
- e. Maximum amount requested to implement the grant

2. Description of Materials Use

- a. How will materials be used and with what goals in mind?
- b. Statement of need as related to your students
- c. Projected activities and timeline, if applicable
- d. Impact – Who and how many will be affected?

3. Materials Budget

- a. Items to be purchased
- b. Expected vendor and prices
- c. Additional funding sources available to you
(Grant requests may be only partially funded.)
- d. Total amount requested

4. Approval Signatures

- a. Grant Leader and Building Site Administrator and title

End Report:

Submit a short report to the Mini-Grant committee by the end of the year on how the purchased materials were used and the effectiveness of the purchased materials in order to be considered for a grant in the future.

Apply online:

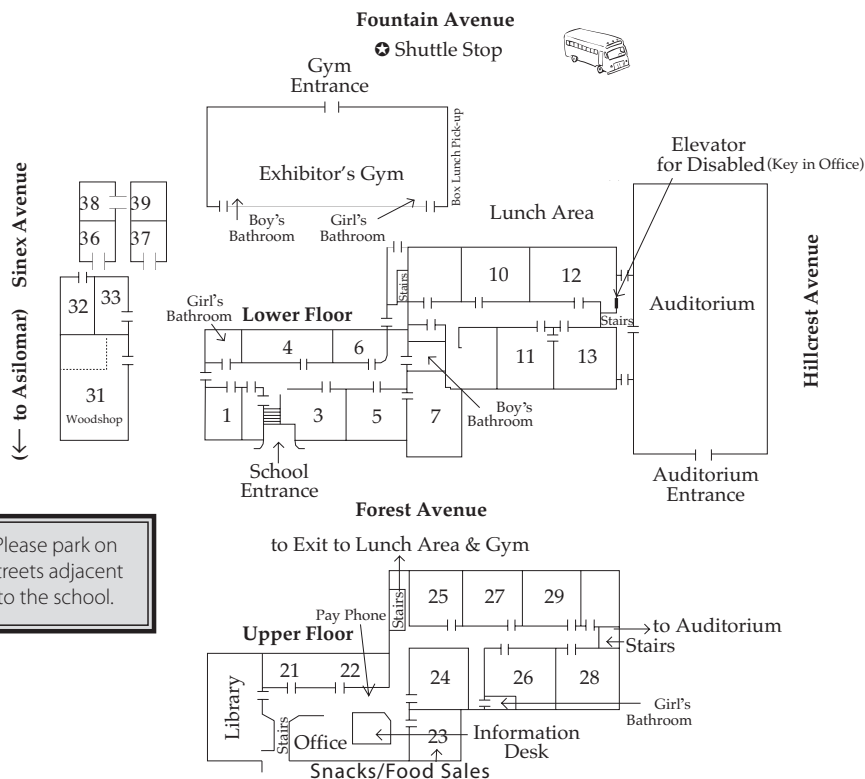
Minigrants.CMCN@gmail.com
(application cover page with signatures should be scanned)

NOTE:

- Grant covers materials only, not teacher work time or compensation.
- Only one Mini-Grant can be awarded per applicant per school year.
- Grant is limited to current CMC-N members and to school sites in the CMC-N area.

Stop by the **CMC-Hub** in Afterglow, Saturday, between 8:00-5:00 and **pick up your swag**, and **your chance to win a \$250 voucher** for any one of our three conferences!

PACIFIC GROVE MIDDLE SCHOOL

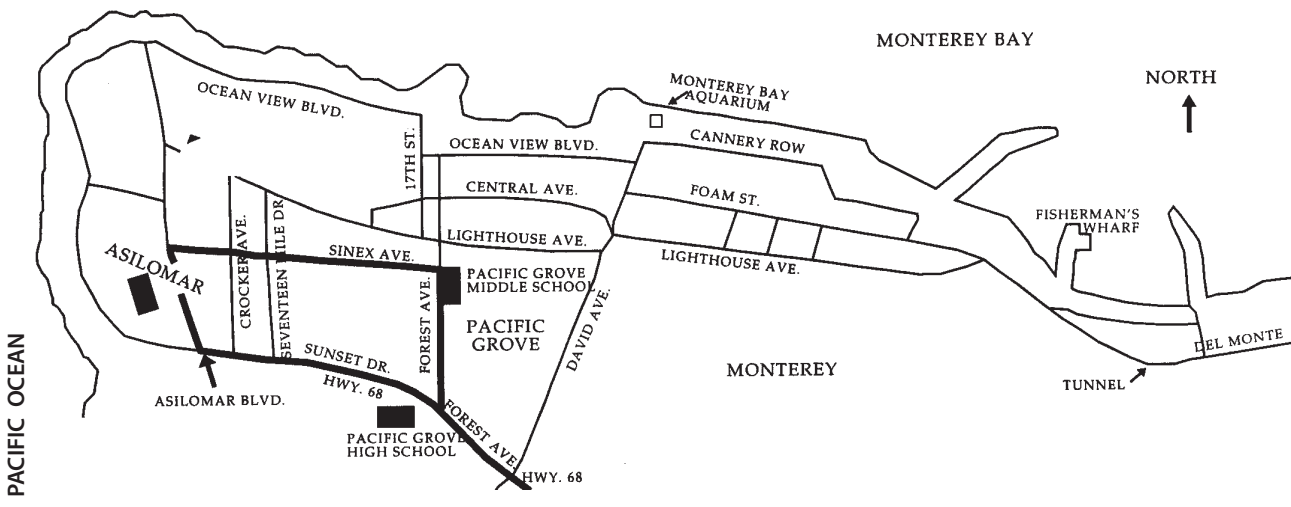


Please park on streets adjacent to the school.

BUS SERVICE will run between the Asilomar grounds and Pacific Grove Middle School on Friday from 5:30-9:30pm and on Saturday from 7:15am - 6:00pm.



PACIFIC GROVE



Go to bit.ly/19ConEval to enter to win a **free** registration or **free** housing at next year's conference by completing the **Conference evaluation**.



Your feedback is important to us! Please take a moment to complete the **Speaker evaluation** at <http://bit.ly/AsilomarSpeakerEval>





Asilomar Math Conference Room Guide

A – North Woods (Toyon)
B – View Crescent (Curlew, Sanderling)
C – Merrill Hall
D – Sea Galaxy (Nautilus East & West, Triton)
E – Fireside (Evergreen, Fred Farr, Klin)

LODGING	MEETING ROOMS
Afterglow Rooms 1501-1512	Acacia B4
Breakers East Rooms 821-832	Chapel Auditorium D5
Breakers West Rooms 833-840	Curlew C5
Cypress Rooms 717-724	Dolphin C5
Deer Lodge Rooms 121-150	Evergreen F1
Director's Cottage Rooms 133-1324	Fred Farr Forum E2
Embers Rooms 102-121	Heather C4
Engineer's Cottage Rooms 901-903	Klin E2
Forest Lodge Rooms 1202-1211	Madrone G3
Guest Inn Rooms 1325-1336	Manzanita I & II B4
Hearth Rooms 101-100	Marlin D4
Live Oak Rooms 201-218	Merrill Hall G4
Lodge Rooms 101-100	Nautilus H4
Long View North Rooms 101-10	Oak Knoll I & II C4
Long View Middle Rooms 111-120	Oak Shelter F1
Long View South Rooms 121-130	Sanderling C6
Manzanita Rooms 1001-1012	Scripts D4
Oak Knoll Rooms 103-1024	Surf & Sand G5
Pirates' Den Rooms 501-510	Toyon B4
Sand Rooms 605-610	Triton H4
Scripts Rooms 301-323	Whitehead B4
Shores Rooms 709-716	OTHER G3
Spindrift North Rooms 849-856	BBQ Area E6
Spindrift South Rooms 841-848	Crocker Dining Hall F6
Stuck-up Inn Rooms 401-414	Fire Pits H5
Surf Rooms 601-604	Guest Check-In E5
Tree Tops Rooms 111-120	Hearst Social Hall F1
Whitecaps North Rooms 809-820	Human Resources A3
Whitecaps South Rooms 801-808	Meditation Space A3
Willow Inn Rooms 1025-1036	Mott Training Center G1
Windward Rooms 701-708	Park Ranger Office G2
Woodside Rooms 1212-1223	Park Store E5
	Phoebe's Café E5
	Seascape F6
	Swimming Pool A5
	Conference and Event Sales E4
	Viewpoint E4
	Volleyball Court H5
	Woodlands F5
	Yoga Room A3
	PARKING LOTS
	Parking Lot A E5
	Parking Lot B G5
	Parking Lot C H4
	Parking Lot D F2
	Parking Lot E E3
	Parking Lot F D4
	Parking Lot G D3
	Parking Lot H B3
	Parking Lot J A4
	Parking Lot K B4
	Parking Lot L B5
	Parking Lot M E2
	Parking Lot N H2
	Parking Lot P I3

- LEGEND**
- Information/Guest Check-In
 - Disabled Parking
 - EV Charging Station
 - Beverage Vending Machine
 - Ice Machine
 - Julia Morgan Historic Building
 - Roadway
 - Pedestrian Pathway
 - Outdoor Group Activity Area



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