California Mathematics Council
Northern Section
Asilomar 2018

CMC North Conference 61st Annual Conference
Student Voice: Let’s Hear It!
November 30 - December 2, 2018
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...

Several 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

Evaluate the conference by December 31, 2018 and you will be entered in a drawing for FREE conference registration and on grounds housing for next year. The winners for this year’s free registration and housing are Katherine Wolffman and Danielle Gallagher.

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.
### Program | Friday - Sunday

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<tr>
<th>Time</th>
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<td>3:00-7:00pm</td>
<td>Registration and bag pick up (Mini Conference participants can pick-up their bags at 12:30pm)</td>
<td>Surf &amp; Sand, Asilomar</td>
</tr>
<tr>
<td>4:00-6:00pm</td>
<td>Newcomers’ Session (20 minute repeating presentations)</td>
<td>Triton, Asilomar</td>
</tr>
<tr>
<td>6:00-7:00pm</td>
<td>Dinner</td>
<td>Dining Hall, Asilomar</td>
</tr>
<tr>
<td>6:00-7:30pm</td>
<td>Exhibits (materials for purchase and bag pick-up)</td>
<td>Gym, Pacific Grove MS</td>
</tr>
<tr>
<td>6:00-7:30pm</td>
<td>Bag Pick-up</td>
<td>Pacific Grove MS</td>
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<tr>
<td>7:30-9:00pm</td>
<td><strong>KEYNOTE SESSION:</strong> Maria del Rosario Zavala, PhD, San Francisco State Univ. Teaching Mathematics in Times of Intolerance</td>
<td>Auditorium, Pacific Grove MS</td>
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<td>7:00-8:15am</td>
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<td>Registration and bag pick-up (Bag pick-up only at PGMS until 11:30am)</td>
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<td>7:45-9:00am</td>
<td>Newcomers’ Session (20 minute repeating presentations)</td>
<td>Triton, Asilomar</td>
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<tr>
<td>7:30am-4:30pm</td>
<td>Exhibits (materials for purchase)</td>
<td>Gym, Pacific Grove MS</td>
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<td>8:00am-12:00pm</td>
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<td>12:00-1:30pm</td>
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<td>1:30-5:00pm</td>
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<td>3:00pm</td>
<td>Drawing</td>
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<td>5:15-6:00pm</td>
<td>CMC-N Affiliate Gathering</td>
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<tr>
<td>6:00-7:00pm</td>
<td>Dinner</td>
<td>Dinner, Asilomar</td>
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<td>7:30-10:00pm</td>
<td><strong>Ignite! and President’s Party</strong> Everyone Welcome!</td>
<td>Merrill Hall, Asilomar</td>
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<tr>
<td>7:30-9:00am</td>
<td>Breakfast (pick-up box lunch)</td>
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<td>9:00-10:15am</td>
<td><strong>MORNING KEYNOTE SESSION:</strong> Grace Kelemanik and Amy Lucento — #EmpoweredMathThinkers</td>
<td>Merrill Hall, Asilomar</td>
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<td>10:15-10:45am</td>
<td>Coffee Break</td>
<td>Merrill Hall, Asilomar</td>
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<td>10:45am - Noon</td>
<td><strong>MID-MORNING KEYNOTE SESSION:</strong> Anthony Muro Villa — Authorship of Mathematical Opportunities</td>
<td>Merrill Hall, Asilomar</td>
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Shalek Chappell-Nichols
**Integrating Nature of Math and the Arts....**

In the integrating nature of math and the arts, we will explore hands-on ways to integrate math and visual and performing arts (drama, music, dance and visual arts) into the daily curriculum. Participants will be able to create lesson plans and other material they can take back to the classroom.  

Mike Flynn
**Beyond Answers: Creating Meaningful Mathematical Experiences for K-5 Students**

Students develop a love and appreciation for mathematics when teachers value the process as much as, if not more than, the product. Getting answers certainly has its place but it’s often the least interesting part of the work in math class. In this session, we will unpack specific methods teachers can use to engage students in mathematical practices and rich tasks that help them develop a deeper understanding of the number system and operations.

Participants in this session will engage in adult learning activities designed to mirror the experiences of K-5 students so they gain the perspective of the learner involved in productive struggle. By experiencing what it’s like to be a student engaged in the mathematical practices, teachers will develop a better understanding of the practices and how they can leverage them in the classroom to elevate students’ interest and sense-making. We will then debrief the experience and consider the instructional decisions and teacher moves that made the work interesting and increased participants’ motivation to dig deeply into the ideas. You will leave with a number of frameworks they can use with their students that take advantage of existing resources and do not require a complete restructuring of their math classrooms.

Emma Trevino, Alisa Brown, Hilda Borko
**Deconstructing Student Math Content Knowledge and Groupwork Through Video-based Discussion**

In this session, participants will do math together before engaging in a video-based discussion to discuss student learning in math groups. Participants will construct a video-based discussion beginning with exploring what kinds of questions lead to authentic adult learning and collaboration. We will create and review various focal questions and discuss how those questions direct our attention to different aspects of video viewing. Participants will practice selecting a 2-3 minute video clip and try out various facilitation moves and participation structures while rehearsing a video-based discussion. We will close with a discussion about how video-based discussions are used or can be used in the participants’ various contexts.

Shelly Carranza and Michael Fenton
**Building Social+Creative Classrooms with Technology**

At its best technology fosters creativity and connects people. Too often in classrooms, however, technology is isolating and stultifying: videos, writing numbers in blanks. Together, we’ll look how technology can support a social & creative classroom. We’ll focus especially on how to implement the 5 practices using Desmos.

Grace Kelemanik and Amy Lucento
**Developing Justification in ALL Students Through the Decide and Defend Instructional Routine**

Creating and critiquing mathematical arguments is essential and often difficult for students – it takes repeated and explicit practice. Decide and Defend is a robust instructional routine designed to develop students’ capacity to construct viable arguments and critique the reasoning of others (MP3). In it, students interpret and consider the validity of another’s math work; decide for themselves if they agree with the work; and then defend their decision. During this session, participants will engage in the routine as math learners, unpack the routine, and discuss how it helps a wide range of learners critique and construct viable math arguments. They will leave understanding the components of the Decide and Defend instructional routine, how they work in concert to develop students’ capacities to construct viable arguments and critique the reasoning of others, and how to get started implementing the routine for themselves and for their students.
Maria del Rosario Zavala, PhD,
Assistant Professor of Elementary Education
Mathematics, Bilingual Education, San Francisco
State Graduate College of Education

When I think about student voice I think about those voices in the margins. In addition to historically marginalized populations of students, our current political climate is creating new ways to oppress and exclude students from being visible and participating in school. Student trauma is a growing issue. Seeing our students clearly is essential for being an effective mathematics teacher. When we think of student voice, who can we not hear clearly? How can we center mathematics teaching on those students?

Teaching Mathematics in Times of Intolerance
This plenary session will be a chance to begin to think about ideas and questions to guide participants’ work throughout the conference. I propose that shifting our teaching to draw in students from the margins requires disequilibrium. In the same way that teachers need students to experience productive disequilibrium when learning mathematics, participants will explore what productive disequilibrium may mean if they are to truly enact change. Using examples from contemporary research and policy, I will ask participants to think about what questions are truly necessary to ask of themselves, and what values underlie particular questions and decisions.

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.

Stop by the CMC-Hub in Afterglow, Saturday, between 8:00-5:00 and pick up your swag, learn about the Scavenger Hunt and your chance to win a $250 voucher for any one of our three conferences!
Asilomar, Merrill Hall | 9:00-10:15

Grace Kelemanik and Amy Lucenta, Math Education Consultants and Co-Founders of Foster Math Practices

#EmpoweredMathThinkers

Students face a constantly changing, data drenched world, filled with fake news and powerful technologies. Learning concepts and skills will not suffice, and leaving students behind is not an option. Every student needs to develop mathematical thinking and reasoning. This can only happen when students are talking together to make sense of important mathematics and each and every student is contributing to the conversation. So, how do we ensure that all students develop as mathematical thinkers and communicators? Leverage the predictable nature and uniform design of instructional routines to support students and teachers alike.

Asilomar, Merrill Hall | 10:45-noon

Anthony Muro Villa, Doctoral Candidate in Mathematics Education, Graduate School of Education, Stanford Univ.

Authorship of Mathematical Opportunities: Examining the Ebb and Flow of Student Authority During Mathematical Groupwork

Groupwork gives students the opportunity to build on others’ ideas, grapple with challenges, and dig into conceptual understandings. It can help students develop autonomy, agency, and a sense of authority over their own learning process. But how does this happen—and how can it go wrong? This talk examines how classroom conditions and the delegation of authority can shape students’ access to the mathematics. I focus on two middle school classrooms where student authority gets enacted in different ways, and question how authority is tied up with norms, expectations, students’ perception of status among their peers, and the mathematics tasks. One classroom is a labeled as regular seventh grade and the other is designated as an accelerated seventh grade class. Using video clips of groupwork, excerpts from interviews, and results from a small-measures survey, I will share my analysis of student mathematical thinking in an authentic setting, and compare that analysis with students’ own self-reported perceptions of groupwork and status. Using the lens of authority, I will advance an argument for how students variously share or usurp each other’s opportunities to engage in mathematics while working collectively on a mathematics task.
CMC-North affiliates will be having a social gathering Saturday in Fred Farr from 5:15-6:00pm. Come find out more about each affiliate in our section and how to stay connected with other math educators in your local area!

Saturday, 5:15 - 6:00 | Asilomar, Fred Farr

CMC-North Local Affiliate Groups
- Math Council of California’s Far North, CMCFN
- Mt Lassen Math Council, MLMC
- Northern Nevada Math Council, NNMC
- 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 Council of Math Educators, AC3ME
- Santa Clara Valley Math Association, SCVMA
- Monterey Bay Math Council Education, 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! session 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!

10 - Connect with other members and find out what CMC can do for YOU
9 - Play some really cool math games
8 - Relax by the fire with a warm beverage
7 - It is centrally located and you’ll regret it if you miss out
6 - Take a photo in front of our media wall
5 - There will be candy
4 - Hear what students have to say
3 - Buy your book for our upcoming book clubs
2 - Complete a Scavenger Hunt for the chance to win a $250 voucher for any of our three conferences
1 - Pick up some fabulous CMC Swag! Who doesn’t want that?

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  
President Elect ................. Sarah Ives  
Vice President .................. Monica Rock  
Treasurer ........................ Brian Lim  
Secretary ........................ Alison Nash

**CONFERENCE VOLUNTEERS**

Program Chair  
Monica Rock

Program Committee  
Hope Bjerke, Mia Buljan, Michael Hernandez, Elizabeth Street, Carmen Whitman  
With special help from: Jessica Balli, Patrick Callahan, Solana Lee and Dan Meyer

Evaluations  
Linda Flood

Registration  
Julie Crozier

Exhibits  
Chris Tsuji, Mark Mosheim

NCTM Representatives and Sales  
Mary Ann Sheridan

Mini Grant Awards  
Linda Shumate

Pre-Service Volunteers  
Brennan Brockbank, Jaime Bonato

Asilomar Presidents  
Robert Preston

Conference Signs  
Julie Stephens, Chair  
Linda Gillette-Koyen

Information Booth  
Julie Swenson

Equipment Committee  
Paul Juarez, Chair  
Chris Hill, Geoff Kent, MhaLou Galendez

Newcomers’ Orientation  
Sherry Rodgers, Linda Shumate

Program Logo and T-shirt Design  
Rebecca Lewis

T-shirt Sales  
Linda Gillette-Koyen

Conference Program  
Connie Anderson

Middle School Coordinator  
Linda Goulet

Middle School Tech Coordinator  
Grayson Fong

Onsite Registration  
Jean Simutis, Amy Burke

CMC Hub  
Joan and Rick Easterday

Historian  
April Goodman-Orcutt

**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

Packing  
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 Fari 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.
how to use twitter

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

Connect to the best faculty lounge around.

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.

Your feedback is important to us! Please take a moment to complete the Speaker evaluation at bit.ly/19SpkrEval

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!

Stay connected with CMC

www.facebook.com/CAMathCouncil

@CAMathCouncil

#CMCMATH

The CMC-N conference app is available for Apple and Android devices. Search for “CMC Conferences”

The conference app will allow you to use your smartphone 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!

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.

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<td>Heather 60</td>
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<td>Martin 34</td>
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<td>Priscilla Sustaita Clark</td>
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### Saturday Sessions

**Fireside**

#### 10:30 - 12:00
- **Sandra Kiefer**
- **Adriana Fierro**
- **Robert Marley**
- **Noel Hume**
- **Karen DeWitt**
- **William L. Higginson**
- **Bette Eileen Rosenthal**
- **Vicki Viera**
- **Arianna Fadali**
- **Eva Mendel**
- **William McCallum**
- **Sandra LaVondra King**
- **Dennis Alpern**

**Coaching**

- **Barb Buckner**
- **Tara Bork**
- **Jill Chery**
- **Jeffery Duken**
- **Sarah Deeper**
- **Kathy Kiernan**
- **Diana Unko**
- **Allison Krasnow**
- **Courtney Ortega**
- **Jane Sep^7**

**Games**

- **Pam Schlicker**
- **Stuart Moskowitz**
- **Arianna Fadali**
- **Sandra Kiefer**
- **Dennis Alpern**
- **Elizabeth Kunst**
- **Robert Marley**
- **Adriana Fierro**
- **William L. Higginson**
- **Bette Eileen Rosenthal**
- **Vicki Viera**
- **Arianna Fadali**
- **Eva Mendel**
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- **Sandra LaVondra King**
- **Dennis Alpern**
- **Ann Novak**
- **Helen Grady**
- **Beth Schenck**
- **Jill Chery**
- **Jeffery Duken**
- **Sarah Deeper**
- **Kathy Kiernan**
- **Diana Unko**
- **Allison Krasnow**
- **Courtney Ortega**
- **Jane Sep^7**

**Learning Communities**

- **Pam Schlicker**
- **Stuart Moskowitz**
- **Arianna Fadali**
- **Sandra Kiefer**
- **Dennis Alpern**
- **Elizabeth Kunst**
- **Robert Marley**
- **Adriana Fierro**
- **William L. Higginson**
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- **Jeffery Duken**
- **Sarah Deeper**
- **Kathy Kiernan**
- **Diana Unko**
- **Allison Krasnow**
- **Courtney Ortega**
- **Jane Sep^7**

**Mathematical Association of Two-Year Colleges (MATYC)**

- **Barb Buckner**
- **Tara Bork**
- **Jill Chery**
- **Jeffery Duken**
- **Sarah Deeper**
- **Kathy Kiernan**
- **Diana Unko**
- **Allison Krasnow**
- **Courtney Ortega**
- **Jane Sep^7**

**National Council of Teachers of Mathematics (NCTM)**

- **Pam Schlicker**
- **Stuart Moskowitz**
- **Arianna Fadali**
- **Sandra Kiefer**
- **Dennis Alpern**
- **Elizabeth Kunst**
- **Robert Marley**
- **Adriana Fierro**
- **William L. Higginson**
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- **Jeffery Duken**
- **Sarah Deeper**
- **Kathy Kiernan**
- **Diana Unko**
- **Allison Krasnow**
- **Courtney Ortega**
- **Jane Sep^7**

**Oregon Council of Teachers of Mathematics (OCTM)**

- **Pam Schlicker**
- **Stuart Moskowitz**
- **Arianna Fadali**
- **Sandra Kiefer**
- **Dennis Alpern**
- **Elizabeth Kunst**
- **Robert Marley**
- **Adriana Fierro**
- **William L. Higginson**
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- **Kathy Kiernan**
- **Diana Unko**
- **Allison Krasnow**
- **Courtney Ortega**
- **Jane Sep^7**

**Rhode Island Mathematics Council (RIMC)**

- **Pam Schlicker**
- **Stuart Moskowitz**
- **Arianna Fadali**
- **Sandra Kiefer**
- **Dennis Alpern**
- **Elizabeth Kunst**
- **Robert Marley**
- **Adriana Fierro**
- **William L. Higginson**
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- **Allison Krasnow**
- **Courtney Ortega**
- **Jane Sep^7**

**Western Council of Teachers of Mathematics (WCTM)**

- **Pam Schlicker**
- **Stuart Moskowitz**
- **Arianna Fadali**
- **Sandra Kiefer**
- **Dennis Alpern**
- **Elizabeth Kunst**
- **Robert Marley**
- **Adriana Fierro**
- **William L. Higginson**
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- **Allison Krasnow**
- **Courtney Ortega**
- **Jane Sep^7**
### 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.

<table>
<thead>
<tr>
<th>STRAND</th>
<th>speaker</th>
<th>title of presentation</th>
<th>target audience</th>
<th>session number</th>
<th>exhibits</th>
<th>strands focused on special interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
<td>Alicia Alberts</td>
<td>Teaching Math Concepts</td>
<td>3-8</td>
<td>INT</td>
<td>748</td>
<td>BT: interest to beginning and new teachers</td>
</tr>
<tr>
<td>$</td>
<td>Scott Farrand</td>
<td>Disequilibrium $&gt;\langle-\rangle&lt;\langle$ Can Create Intellectual Need</td>
<td>8-12</td>
<td>INT</td>
<td>318</td>
<td>BT: interest to beginning and new teachers</td>
</tr>
</tbody>
</table>

### 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.
<table>
<thead>
<tr>
<th>Room</th>
<th>8:00 - 9:00</th>
<th>9:30 - 10:30</th>
<th>11:00 - 12:00</th>
<th>1:30 - 3:00</th>
<th>3:30 - 5:00</th>
</tr>
</thead>
</table>
| Room 1 | Dennis Mulhearn  
Cubes Offer a Rich Setting for Problem Solving  
3-5 | INT | 131 | BT |  
**CAMTE** |
| Room 2 | Laurie Duerksen  
Measure Up! Bringing Geometry to Life  
6-8 | INT | 213 | BT |  
**GAMES** |
| Room 3 | Breanne Phillips  
Talk Nerdy to Me: Increasing Student Discourse  
8-12 | INT | 331 | BT |  
**GAMES** |
| Room 4 | Stephanie Bainbridge  
Math Fun’die’Mental: Interactive Middle Years Math Games  
6-8 | INT | 431 | BT |  
**GAMES** |
| Room 5 | Marisa Aoki  
Visual Equations  
6-8 | PRS | 533 | BT |  
**GAMES** |
| Room 6 | Taik Kim  
Making Sense of Multiplication  
3-5 | INT | 133 | BT |  
**GAMES** |
| Room 7 | Margaret Cagle  
Rich Tasks Require Rich Implementation for Rich Learning  
8-12 | INT | 233 | BT |  
**GAMES** |
| Room 8 | Christina Marin  
Blow It Up! Facilitating Controversial Sorting Task Debates  
6-8 | INT | 333 | BT |  
**GAMES** |
| Room 9 | Cynthia Raff  
An Equation Journey: Strategies to Spark Engagement  
6-8 | INT | 434 | BT |  
**GAMES** |
| Room 10 | Roberta Newton  
Counting: It’s More than 123  
PK-2 | INT | 134 | BT |  
**PRS** |
| Room 11 | Nicki Newton  
Math Running Records in Action  
PK-5 | INT | 234 | BT |  
**PRS** |
| Room 12 | Paul Jorgens  
Fire Up the Math Classroom with Conversation  
6-8 | INT | 135 | BT |  
**PRS** |
| Room 13 | Elmano Costa  
Empowering ELs in Math: Giving Students’ Voice in Classrooms  
PK-5 | INT | 236 | BT |  
**PRS** |
| Room 14 | Amanda Mudde  
Creation of Math Projects with Low Floor and High Ceilings  
8-12 | INT | 336 | BT |  
**PRS** |
| Room 15 | Isha Jain  
Student Voice in Project-Based Learning  
6-8 | INT | 436 | BT |  
**PRS** |
| Room 16 | Kim Velasquez  
An Ethnomathematics Lens on Social Justice  
Maths Practice  
6-8 | INT | 136 | BT |  
**CAMTE** |
| Room 17 | Peggy McLean  
Mirror Every Learner Every Teacher Needs  
PK-5 | INT | 140 | BT |  
**CAMTE** |
| Room 18 | Elizabeth Reiff  
Academic Conversation: You Can’t Do it Alone!  
6-8 | INT | 130 | BT |  
**CAMTE** |
| Room 19 | Suzanne Damm  
Cooperative Learning Structures and Study Team Strategies  
3-5 | INT | 341 | BT |  
**CAMTE** |
| Room 20 | Noam Zsoko  
MathRoom Management Norms Build a Safe, Powerful Math Class  
PK-5 | INT | 440 | BT |  
**CAMTE** |
| Room 21 | Lyn Scott  
Math and Dual Language Learners: What Every Teacher Needs  
PK-5 | INT | 140 | BT |  
**CAMTE** |
| Room 22 | Cynthia Kawalek  
Divergence Does Not Have to Be Hard!  
PK-5 | INT | 235 | BT |  
**CAMTE** |
| Room 23 | Karin Lee  
The Math Writing Sojourner  
6-8 | INT | 132 | BT |  
**CAMTE** |
| Room 24 | Tim Erickson  
Connect Geometry to Functions with Data and Modeling  
6-8 | INT | 442 | BT |  
**CAMTE** |
| Room 25 | Vriana Kempster  
Playing with Data: Dynamic Statistics in Grades 6 through 9  
6-8 | INT | 142 | BT |  
**CAMTE** |
| Room 26 | Cornelia Ritter  
Dialogic Learning: An Inquiry-based Swiss Approach  
PK-5 | INT | 242 | BT |  
**CAMTE** |
| Room 27 | Kari Lee  
Number Lines: A Journey Through Middle School  
6-8 | INT | 358 | BT |  
**CAMTE** |
| Room 28 | Mayra Lara  
Math as a Lever for English Learner Equity  
GI | INT | 458 | BT |  
**CAMTE** |
| Room 29 | Hallie Foster  
If By Hand, 2 if By Gel(a)ebra  
8-12 | INT | 158 | BT |  
**CAMTE** |
| Room 30 | Chris Anspach  
Cultivating Student Voice: Building Agency with Discussion  
8-12 | INT | 248 | BT |  
**CAMTE** |
| Room 31 | Brigitte Lahme  
Number Lines: A Journey Through Middle School  
6-8 | INT | 358 | BT |  
**CAMTE** |
| Room 32 | Jennifer Bourque  
Aha! Student-Driven Investigations of Number Patterns  
PK-5 | INT | 343 | BT |  
**CAMTE** |
| Room 33 | Shannon Hoos  
Choice Boards: A Choose Your Own Math Adventure  
6-8 | INT | 543 | BT |  
**CAMTE** |
| Room 34 | Duane Graysay  
Effective Questions to Get Students to Think Mathematically  
8-12 | INT | 145 | BT |  
**CAMTE** |
| Room 35 | Crista Leamons  
Talks and Tasks: Access and Agency for Students with IEPs  
6-8 | INT | 245 | BT |  
**CAMTE** |
| Room 36 | Jennifer Bourque  
Aha! Student-Driven Investigations of Number Patterns  
PK-5 | INT | 343 | BT |  
**CAMTE** |
| Room 37 | Doug McKenzie  
Sequences: The Foundation for Understanding Linear Patterns  
6-8 | INT | 144 | BT |  
**CAMTE** |
| Room 38 | Dennis Kombe  
Learning to Enact Math Discourse Practices  
8-12 | INT | 244 | BT |  
**CAMTE** |
| Room 39 | Jody Anderson  
Using Children’s Literature in Mathematics  
PK-2 | INT | 144 | BT |  
**CAMTE** |
| Room 40 | Leanne Branhm  
A Plan for More Responsive Math Support Classrooms  
6-8 | INT | 444 | BT |  
**CAMTE** |
| Room 41 | Theo Sagun  
Choral Counting from Elementary to Middle School  
6-8 | INT | 145 | BT |  
**CAMTE** |
| Room 42 | Gary Eisenberg  
Singing, Dancing, and Playing Through K-3 Mathematics  
PK-2 | INT | 245 | BT |  
**CAMTE** |
| Room 43 | Helen Arrington  
Promoting Instructional Coaching to Improve Teacher Practice  
GI | INT | 345 | BT |  
**CAMTE** |
### Conference Program Matrix

<table>
<thead>
<tr>
<th>Room</th>
<th>Time</th>
<th>Session</th>
<th>Speaker</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room 27</td>
<td>8:00 - 9:00</td>
<td>Ryan Burke: Teacher Explorations of a Virtual Tutor for Linear Equations</td>
<td>Jessieann Ceron</td>
<td>Exploration, Not Explanation</td>
</tr>
<tr>
<td></td>
<td>9:30 - 10:30</td>
<td>Brandolyn Patterson: Achieve Equity of Voice Through Global Competence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Room 28</td>
<td>11:00 - 12:00</td>
<td>Brian Lindaman: Unusual Shapes, Angles, and Supercool...</td>
<td>Munich</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1:30 - 3:00</td>
<td>Judy Kys: Teaching Strategies for Problem Solving is an Equity Issue</td>
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<tr>
<td>Room 29</td>
<td>3:30 - 5:00</td>
<td>York Morris: Mathematics: Make a Mathematical Language Routine</td>
<td>Devin Rossiter</td>
<td>Same/Different: A Mathematical Language Routine</td>
</tr>
<tr>
<td>Room 30</td>
<td>6:00 - 8:00</td>
<td>Martin Joyce: Creating Graphs in Desmos to 3D Print</td>
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<tr>
<td>Room 31</td>
<td>9:00 - 10:00</td>
<td>Marc Roth: Bowling Pin Puzzles</td>
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<tr>
<td>Room 32</td>
<td>11:00 - 12:00</td>
<td>Chris Shaw: Making Mathematics Visible</td>
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<tr>
<td>Room 33</td>
<td>1:00 - 2:00</td>
<td>Liz Collier: Promoting Structured Student Talk Using Engaging Math Tasks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Room 34</td>
<td>3:00 - 4:00</td>
<td>This Colossus: A Journey of Gradual Release &amp; Hints that Work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Room 35</td>
<td>5:00 - 6:00</td>
<td>Dennis Mulhern: Excite and Energize Teaching Area by Using Contest Problems</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please check the Program Matrix for the seating capacity of each room. All seats are available on a first-come, first-served basis.

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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.
Alcosser, Howard — AP Calculus Teacher, Diamond Bar HS  
**I Love My AP Calculus Class!**
Using my experience as a College Board AP Calculus Consultant and Diamond Bar high school teacher, participants get innovative and motivational strategies for success in their AP Calculus class and in every classroom, review tips and tricks on building a successful AP Calculus program, explore ways to make their program and class exciting, and learn strategies to help ensure a deeper student engagement and success on the AP Calculus exam. Teachers and students say, *"I love my AP Calculus class!"*
8-12 | PRS | 106 | Saturday, 8:00 - 9:00 | Asilomar, Scripps Conference | BT

Anderson, Jody — California Reading Assoc. VP  
**Using Children's Literature in Mathematics**
Having trouble finding time in your day for one more read aloud? Combine your read alouds with your math lessons and ignite the passion for both in your students. Join me in exploring many primary books including, *Deck the Walls, The Relatives Came and The Tortoise and the Hare* to strengthen math vocabulary, encourage exploration, make number stories, engage in TPR, explore probability and geometry. Lessons you can take back home and use on Monday! Primarily for TK-1.
PK-2 | INT | 344 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 25 | BT

Anspach, Chris — Teacher, Sonoma Valley USD  
**Cultivating Student Voice: Building Agency with Discussion**
Creating student voice and buy-in is an extremely difficult task. This is made even more difficult in a mathematics classroom where students can feel uneasy about the content being discussed. We will examine how productive mathematical discussions can be used to develop a classroom culture centered around student voice and ideas. Letting student ideas and methods drive our lessons will help empower all of our students.
8-12 | INT | 248 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 29 | BT

Aoki, Marisa — Math Teacher  
**Visual Equations**
For many students, algebra has become an obstacle blocking graduation rather than a tool for problem solving. Yet, if we give those same students a context they can understand, suddenly things make sense. Come experience a progression of resources that develops algebraic thinking through visuals, puzzles, and diagrams. Capitalize on students’ strength with visual representations to leverage sense-making and conceptual development when working with equations.
6-8 | PRS | 331 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 4 | BT

Arrington, Helen — Instructional Coach, San Jose USD  
**Promoting Instructional Coaching to Improve Teacher Practice**
Participants will learn about how the role of the site Instructional Coach in San Jose Unified School District has supported teaching and student learning in the mathematics classroom. This session will focus on techniques used by the instructional coach to engage teachers in coaching cycles to improve their practices. Participants will learn about the five phases of the coaching cycle and specific Learn Phase activities to foster teacher growth and development.
6-8 | INT | 203 | Saturday, 9:30 - 10:30 | Asilomar, Heather | BT  
Co-presenter: Solana Ray

Atkin, Kyle — Mathematics Program Coordinator  
**Teaching Strategies to Engage Students**
This session will focus on activities that are visual and open which will contribute to implementing some of NCTM’s eight Effective Teaching Practices described in Principles to Action. Other teaching strategies such as anticipating, pacing, monitoring, and sequencing will also be discussed to help deepen our understanding of some of these practices.
8-12 | INT | 541 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 21Lab | BT

Auer, Tyler — Math Specialist  
**Notice, Wonder, Show: Proofs in the Elementary Grades**
Our elementary students explain, reason, and justify, but we rarely describe this work as what it truly is: mathematical proof. In this session we will generate our own informal conjectures and try to prove or disprove them, enabling us to better guide our students in leading this process themselves. We will also see what elementary proofs look like and better understand how proofs support sense making in the elementary grades.
PK-5 | INT | 304 | Saturday, 11:00 - 12:00 | Asilomar, Oak Shelter | BT

Bainbridge, Stephanie — Consultant, Box Cars and One Eyed Jacks  
**Math Fun “die” Mentals: Interactive Middle Years Math Games**
Who knew teaching and learning math could be this much fun? Set your students up for success! Use regular cards and dice to enhance your curriculum and state standards. Come play and learn games for both mixed and order of operations, algebra, coordinate geometry, and analytical thinking. Participants will learn engaging hands-on activities that they can differentiate to help each student, at their own level, achieve success in math. Game-boards, student samples and journal extensions shared.
6-8 | INT | 431 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 1 | BT

**Oh The Math That They’ll Know PreK-K**
Finally! A tailor made workshop for the kindergarten - grade 1 levels. Come prepared to play games that incorporate the use of cards, dice, and multi-sided dice that teach counting, place value, comparing numbers as greater or less than, odd even, counting on from a given number, patterns, early addition and subtraction strategies, doubles and more. Ideas for developing Math Talk, journal drawing/writing and response activities will be shared through the workshop.
PK-2 | INT | 531 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 1 | BT

Balli, Jessica  
**Do I Reteach or Move On? A Third 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. Whether you’re a classroom teacher or you support math teachers, you’ll leave with new strategies and ways to re-engage students in mathematics.
6-8 | INT | 203 | Saturday, 9:30 - 10:30 | Asilomar, Heather | BT  
Co-presenter: Solana Ray

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Stop by the CMC-Hub in Afterglow, Saturday, between 8:00am-5:00pm and pick up your swag!
Bambao, Kim — Mathematics Director, San Mateo COE
Counting Our Way to Number Sense: How Counting Collections
Counting Collections is a learner-centered activity that supports students in making sense of quantity and the number system while counting collections of objects. We will share video and student work samples of preschool through second grade students focusing on how teachers use questioning strategies to help students voice their sense making and understanding of mathematical ideas. Counting Collection is a straightforward practice and aligns with the Common Core Standards so it enhances any curriculum.

PK-2 | PRS | 156 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 38 | BT
Co-presenter: April Chemington — Math Coach, Silicon Valley Math Initiative

Biehl, Chuck — Enthusiast
Computational Geometry: A Teacher’s Introduction
Many modern geometry problems require algorithms and other types of mathematics to solve them. This session features an overview of the field and its applications in high school. Take a close look at three sample problems: the Art Gallery Problem, which places surveillance cameras or guards in various places around polygons, and the Facility Location Problem (from ComMunicator 3/18) and Steiner networks, both of which mathematically locate sites for new hospitals, prisons, restaurants, etc.

8-12 | INT | 410 | Saturday, 1:30 - 3:00 | Asilomar, Curlew | BT

Bob-Wakberg, Becky — Teacher, Park Day School
Warm Up to Mathematical Freedom
We will explore how class warmups can create space for students to feel mathematically free. I will model a simple, open-ended warmup routine and share its underlying values (including curiosity, social construction of knowledge, and multiple paths to correctness).

We will think together to build an understanding of mathematical freedom, and how it might connect with joy, ownership, and voice. Finally, we will discuss and plan warmup routines for different classroom settings and goals.

6-8 | INT | 356 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 38

Bourque, Jennifer — Level III Lead Teacher, Synapse School
Aha! Student-Driven Investigations of Number Patterns
This session will introduce participants to two investigations: Palindromes and Pascal’s Triangle. We will look at student work, examine mistakes as teachable moments, and make connections between operations, place value, probability, and triangular numbers as we work through the investigation. Opportunities to build, draw, and use tools enhances our understanding. By giving students access to authentic problems in mathematics, they are challenged to dig deep and think about number patterns.

PK-5 | INT | 343 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 24 | BT
Co-presenter: Michelle Monikawa — Level II Lead Teacher, Synapse School

Bower, Travis — Math Teacher, Dos Pueblos HS
Geometric Probability: Scaffolded
Geometric probability provides many low floor – high ceiling problems. Is it easier to hit a circle in a square or a square in a circle? We will explore this with: compass/tech creation, eyeball estimation, grid estimation, geometric dissection, and technology. I will refer to Notability, TI-Nspire iPad app, Neo LMS, Wootmath and Apple Classroom. As time permits we will explore some challenging problems while emphasizing process as well as the final answer. Bring some of your favorites.

8-12 | INT | 312 | Saturday, 11:00 - 12:00 | Asilomar, Dolphin | BT

Buckner, Barbrie — Education Specialist, NASA Armstrong Flight Research Center
International Space Station Microgravity: Mass vs. Weight
Come learn about the difference between mass and weight. Engage in “out of this world” hands-on, standards-aligned STEM experiments. Analyze your experimental data by creating charts and graphs and then compare your results by watching video clips of similar experiments performed on-board the International Space Station in microgravity by NASA astronauts.

8-12 | MTI | 593 | Saturday, 3:30 - 5:00 | Asilomar, Scripps Conference | BT
Co-presenter: Sue Nichols — Assistant Professor, Ohio Univ.

Brannon, Leeanne — Teacher on Special Assignment, Clovis USD
A Plan for More Responsive Math Support Classrooms
Stop shopping for a curriculum. Effective math support courses do not come in a box. They cannot be prescribed or contained by a pacing calendar. Much like a good conversation, the complete dialogue cannot be planned without hearing the thinking the students bring to the table. Workshop includes: a) Our story: How we worked together to reinvent our support classrooms, b) What we do: Participate in the types of activities we use on a daily basis, c) The results: What our students and the data say.

6-8 | INT | 444 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 25 | BT

Brown, Alisa — Math Coach, San Francisco USD
Connected Mathematics: The Progressions and Math Identity
What are students voicing in their math and how is Math identity a part of this? K-8 schools present interesting challenges in collaboration as well as exciting opportunities for looking at Math progressions. In this session, participants will replicate a multi-grade math team in a K-8 school reviewing video and student work aligned with a progression in order to hear and understand students’ math connections and agency while planning bridges to desired mathematical content.

GI | INT | 506 | Saturday, 3:30 - 5:00 | Asilomar, Curlew | BT
Co-presenter: Toni Allen — Math Coach

Brown Brooks, Gloria — Teacher, TODOS, NCTM, NCSM, WME
Opening the Doors to Student Communication
During this session we will discuss different methods of communicating with our students. These methods will address writing in mathematics, access and equity and empowerment. The journey towards mathematical empowerment through dialogue and engagement, provides us a deeper understanding of Social Justice in Mathematics as well.

Tchr Ed | PRS | 151 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 33 | BT
Co-presenter: Isabel Garcia-Bertalotto — Mathematics Teacher

Buckner, Barbie — Education Specialist, NASA Armstrong Flight Research Center
International Space Station Microgravity: Mass vs. Weight
Come learn about the difference between mass and weight. Engage in “out of this world” hands-on, standards-aligned STEM experiments. Analyze your experimental data by creating charts and graphs and then compare your results by watching video clips of similar experiments performed on-board the International Space Station in microgravity by NASA astronauts.

8-12 | MTI | 593 | Saturday, 3:30 - 5:00 | Asilomar, Scripps Conference | BT
Co-presenter: Sue Nichols — Assistant Professor, Ohio Univ.
Burke, Ryan — Research Assistant, WestEd
**Teacher Explorations of a Virtual Tutor for Linear Equations**
How can a virtual tutor foster meaningful learning experiences in math classrooms? This session introduces ways middle school teachers used a virtual tutor system that provides adaptive problem solving assistance during their linear equations and functions unit. In this session we will also share about the student experience. Teachers will consider and discuss how technology, like an adaptive virtual tutor, can be used effectively in supporting meaningful math experiences for students.

6-8 | PRS | 146 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 27 | BT  
Co-presenter: Katie Salguero — Research Associate, WestEd

Burrill, Gail — Academic Specialist, Michigan State Univ.
**Ten Ways to Help Make Formative Assessment Integral to Learning**
Formative assessment has been identified as a strategy for improving student learning. However, formative assessment as implemented is often inconsistent with the literature. Participants will consider how to design classroom opportunities using tasks and questioning strategies, often involving interactive dynamic technology, that can help us refocus our instruction based on what our students say and do.

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

Byron, Ellen — Math Coach, Elk Grove USD
**Slower and Louder Won't Work: Changing Students' Mindset**
This session provides the nuts and bolts on how we designed a math class to support students who were below standards, but not too far below. So often students are taught using the same format as their regular math class just with more time. We broke the mold and designed a growth mindset and SMP model that helps the long-term success of our students. We will share the format, free resources and student success data detailing how you too can implement this student-centered class.

6-8 | INT | 415 | Saturday, 1:30 - 3:00 | Asilomar, Triton | BT  
Co-presenter: Louis Silva — Math Dept Chair, Elk Grove USD

Cagle, Margaret — Math Teacher, Los Angeles USD
**Rich Tasks Require Rich Implementation for Rich Learning**
For over 20 years, research has documented the critical role of rich tasks in generating high-quality opportunities to learn math, develop conceptual understanding and procedural fluency, and build efficacy and agency. Examine pedagogical choices and routines that ensure the richness of opportunity for developing student thinking is maintained throughout the task implementation. Explore ways to use everyday tasks in rich ways, increasing opportunities for students to think and act as mathematicians.

8-12 | W | 233 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 4 | BT

Callahan, Patrick — Consultant, Callahan Consulting
**Desmos: Deeper Understanding Through Writing Explanations**
Many Desmos classroom activities include questions where students are asked to WRITE mathematical explanations. Do your students skip these? Do you make the most of their responses? We will share examples, tools and teaching strategies for maximizing these underutilized writing prompts both for instruction and as powerful embedded assessments.

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

**Hashtag CMCMATH**

Campos, Ed — Program Trainer, Brown Univ.
**360 Degree Math: A Math Classroom Revolution**
Flip the script in the math class by putting your students center stage with 360 degree math. Get your students up, performing, solving, and persevering by livening up the environment with whiteboard surfaces, music cues, visible random groupings, and strategic questioning. Use an iPad and Airserver to untether yourself from your doc cam and fully mobilize yourself in the classroom. Attendees will experience 360 degree math and leave with the resources to join the 360 Math revolution.

6-8 | INT | 308 | Saturday, 11:00 - 12:00 | Asilomar, Toyon | BT

Carlyle, Ann — Supervisor/Instructor, UC Santa Barbara
**Tools for Thinking and Talking in K-2**
We’ll explore dot card, bead boards, ten frames, same but different tasks, number paths and number lines, and hundred charts. With these basic tools, students learn that numbers can be broken down into other numbers using decomposition. They also begin to recognize the relationship of parts to the whole. The relationships of more, less, the same, how many more, how many less, and the sequencing of numbers are all ideas that can be student constructed through exploration and talking.

PK-2 | INT | 554 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 36 | BT

Carr, Janice — Professor Emerita, Foothill College
**Meeting Environmental Challenges with Math**
In this STEM-focused workshop, discover hands-on activities that use real-world data to create mathematical models as a way to understand trends in land use, population growth, climate change and more. Build students’ environmental IQ while developing skills in measurement, data analysis, modeling and problem solving. Receive lesson plans in an electronic format matched to state standards.

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

Carranza, Shelley — Lead Instructional Designer, Desmos
**Designing with Desmos**
Ever wondered what goes into designing a digital math activity? In this session, you’ll learn about design techniques from members of the design and teaching teams at Desmos. We’ll go through the principles of design thinking, then split into groups for a few hands-on exercises. The skills we’ll learn will help you evaluate products and activities – and build your own – inside and outside of Desmos.

8-12 | INT | 457 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 39
Co-presenter: Jenny Wales — Lead Designer, Desmos

Ceron, Jessyann — Teacher
**Exploration, Not Explanation**
Peer interactions and discussions in a kindergarten classroom are enhanced with meaningful tasks in which students have a chance to explore ideas and solutions rather than giving explicit explanations on how to problem solve. Using the book Intentional Talk, I will demonstrate how to facilitate discussions to deepen understanding of difficult math concepts.

PK-5 | INT | 246 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 27 | 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.
Chappell, Alison — Educator, San Carlos Charter Learning Center

Counting Collections in Primary Classrooms

Come see how children experience quantity, develop number sense, deepen place value understanding, and develop a positive mathematical identity through counting collections. Counting collections allows for multiple entry points and for number sense to be easily differentiated in the classroom. Our session is based on supporting student engagement, participation, developing a community of active learners and encouraging articulation of mathematical ideas.

PK-2 | INT | 451 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 33 | BT
Co-presenter: Darlene Fish Doto — Educator, San Carlos Charter Learning Center

Cheng, Ivan — Professor, CSU Northridge

How to Desmo-fy Your Math Lesson to Promote a Growth Mindset

In this session you will experience growth mindset activities on Desmos and learn what it takes to make your own. Ready to use activities will be shared. Be sure to bring your laptop to engage in this interactive workshop.

8-12 | INT | 147 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 28 | BT
Co-presenter: Matt Kim — Teacher, Assurance Learning Academy

Chialvo, Federico — Director of Mathematics, Synapse School

Awesome Mathematical Adventures for Early Elementary

The study of mathematics has generated some of the most beautiful, magical and surprising discoveries! Many of these discoveries provide fantastic activities for our students to experience being surprised by math, needing to know how and why it works and then forging a path through the unknown to develop an explanation. In this session, we will explore a few of maths' greatest hits, discuss how to facilitate these discoveries, and why all kids deserve to experience mathematics in this way.

PK-3 | INT | 334 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 5 | BT
Co-presenter: Ethan Weker — Math Instructor, Mid-Peninsula HS

Clinkenbeard, Jennifer — Assistant Professor, CSU Monterey Bay

Enduring Understanding of Functions: Who’s an X? Who’s a Y?

Participants work together to explore functions in the context of data about the sea otters in the nearby Elkhorn Slough. This “rich task” has a low-entry, high-ceiling structure suitable for math-anxious students or students with varying levels of prerequisite knowledge. This activity is adapted from a lesson in a new co-requisite university general education mathematics course. Materials suitable for classroom use are provided for participants.

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

Collier, Liz — Instructional Coach, San Jose USD

Promoting Structured Student Talk Using Engaging Math Tasks

Participants will engage in whole and small group collaborative structures that encourage productive math talk and allow students of all levels to access rigorous content. We will provide strategies by using Algebra math tasks that allow teachers to foster a collaborative community of learners in their classroom. Teachers will actively participate in the structures and then we will reflect together on the strategies and the norms which will lead to successful implementation in their classroom.

8-12 | INT | 551 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 33 | BT
Co-presenter: Danyale Bell — Instructional Coach, San Jose USD

Connelly, Ralph — Professor Emeritus, Brock Univ.

Dicey Situation

Participants will work through a variety of unusual dice activities that will effectively build students’ understanding of concepts of chance.

6-8 | INT | 258 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 23 | BT

Costa, Elmano — CSU, Stanislaus

Empowering ELs in Math! Giving Students’ Voice in Classrooms

How can we give ELs voice in math when they speak so many languages? English Learners can be active participants when instruction is orchestrated to meet their needs. This workshop shows how to plan and deliver lessons that make instruction comprehensible for ELs and permits them to become active participants regardless of their level of English. The session begins by presenting the key features of EL lesson design and then models how to implement them in a math lesson taught in Portuguese.

PK-6 | INT | 236 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 7 | BT

Damm, Suzanne — Santa Clara Univ.

Cooperative Learning Structures and Study Team Strategies

We will explore strategies to truly engage students in group work. Teachers often ask, “How can we get students to work together and talk about the math and the mathematical thinking?” We will look at grouping strategies, group roles and group evaluation techniques. We will engage in activities ready to take to your classroom.

3-5 | INT | 341 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 21Lab | BT

Davidson, Scott — Math Instructor, Clovis USD

Make Math Pop Out With 3D Printing

Have you ever imagined a 3D printer in your classroom? Come and find out how you can instantly engage students with 2D and 3D models that help them visualize and understand topics in algebra, geometry, proportional thinking, probability, and more. We will demonstrate how 3D printed objects can drive activities that encourage students to physically connect with mathematics. Bring your own laptop to design a math toy, and a few lucky participants can print their own to take back to the classroom!

GI | INT | 334 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 5 | BT
Co-presenter: Ethan Weker — Math Instructor, Mid-Peninsula HS

Deis, Josh — Mathematics Coordinator, Sonoma COE

Learning From Student Interviews

Listening to students is an exhilarating and powerful means for understanding the complex world of teaching and learning mathematics. During this session we will watch interviews and explore what we have learned about students’ Agency, Identity, and Ownership through interviews. Participants will also be provided resources and tools for conducting their own student interviews.

GI | PRS | 316 | Saturday, 11:00 - 12:00 | Asilomar, Nautilus East | BT

Dimas, Cecilio — Partner/Director of Innovation and Strategy, Silicon Valley Mathematics Initiative

Leveraging Language in Mathematics to Open Minds and Hearts

In this session, participants will engage in Math Language Routines anchored in a progression of mathematics through the use of performance tasks. Additionally, we’ll analyze the power of utilizing the relationship between language and math as a source to shift and change mindset and expand identity to include mathematics. Participants will leave with a set of routines and performance tasks, as well as guidelines about how to implement a student-driven and cognitively-guided performance task experience.

3-5 | INT | 205 | Saturday, 9:30 - 10:30 | Asilomar, Evergreen | 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.
Disston, Jacob — Education Program Director
Using 5 Practices to Prep Teachers for Equity and Excellence
We’ll share experiences using the 5 Practices (anticipating, monitoring, selecting, sequencing, connecting) to prepare secondary pre-service math teachers to elicit and capitalize on student thinking. We’ll examine examples of activities enacted in the UC Berkeley MACSME program’s methods course, which was organized weekly at Berkeley High School, and involved our pre-service teachers engaging in approximations of core practices with small groups of students in a 9th grade algebra classroom.
Tchr Ed | INT | 408 | Saturday, 1:30 - 3:00 | Asilomar, Toyon
Co-presenter: Megan Taylor — Teacher on Special Assignment, Irvine USD

Donavan, Kristie — Math Teacher, Woodbridge HS
Small Tweaks, BIG IMPACT
Make an immediate positive impact on student learning with easy-to-use strategies and routines that can be used in any course, at any level. Engage in strategies that support class discourse, self-assessment, flexible grouping, and differentiation.
8-12 | INT | 155 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 37 | BT

Linear Functions Roadmap: Making Connections Across Grades
The key to deep understanding is connecting to prior and future knowledge. We will explore the progression of linear functions from proportional relationships in 6th grade to interpreting linear models in 9th to comparing with other function families in higher grades. Participants will leave with a clear roadmap of linear functions and tasks that build a deep understanding through all middle and high school courses.
8-12 | INT | 512 | Saturday, 3:30 - 5:00 | Asilomar, Dolphin | BT
Co-presenter: Martha Barrett — Teacher on Special Assignment, Irvine USD

Duerksen, Laurie — Teacher on Special Assignment
Measure Up! Bringing Geometry to Life
This workshop introduces participants to modeling activities to build conceptual understanding in middle grades geometry. Participants will look at the progression of middle grades measurement geometry and the connections between grade levels. This session encourages participants to work collaboratively exploring area, surface area, and volume of 2D and 3D figures through real world modeling activities. Explorations will contain multiple pathways and points of entry supporting all learners.
6-8 | INT | 231 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 1 | BT
Co-presenter: Breanne Phillips — Teacher on Special Assignment, Irvine USD

Duncan, Kawthar — Math Content Specialist, San Francisco USD
Two-For-One: Teach Math and Language Together For ELLs
Students are empowered when we provide them with tools to make sense of math in ways that are creative, interactive, and relevant. This applies to all students but has particular urgency for EL students, many of whom may experience either limited linguistic access or less rigorous instruction. This session will present structures to enhance both the rigor and the access to rich math tasks while also attending to language. Participants with experience these structures and discuss their merits.
PK-5 | INT | 211 | Saturday, 9:30 - 10:30 | Asilomar, Sanderling
Co-presenter: Glenn Kenyon — Math Specialist, San Francisco USD

Eisenberg, Gary — Seminar Leader, Bureau of Educ. and Research
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 | W | 245 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 26 | BT

Erickson, Tim — Senior Scientist
Connect Geometry to Functions with Data and Modeling
Do the whole modeling cycle in a classroom-practical, tech-rich investigation. You will measure parts of geometric figures, plot the measurements as data (using Desmos or CODAP), find functions that fit the data, and then use the functions to understand the original geometrical context. You’ll experience both linear and non-linear situations. We’ll also see real student work and discuss assessment. If you can, bring your own laptop. If you can’t, you can share!
8-12 | INT | 442 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 22 | BT

Farrand, Scott — Professor, Sacramento State
Disequilibrium >>(-_-)<< Can Create Intellectual Need
Wonderful things can happen when a student encounters an idea or information that conflicts with their prior understanding. This state of disequilibrium can motivate students to search aggressively for a greater understanding. Join me and we’ll do some math that is intended to create disequilibrium, to be reminded of how it feels to be strongly motivated to find an explanation.
8-12 | INT | 318 | Saturday, 11:00 - 12:00 | Asilomar, Merrill Hall | BT

Farrell, Andrew — Corning HS
Trigonometry Spirograph
Do you still use a TI-84 in your classroom? This session will explore sin and cos using parametric equations to make several geometric shapes, designs and spirals. The activity will give students a chance to explore and investigate how and why changes in the functions and settings can create interesting patterns. This is an activity that can be used in many grade levels.
8-12 | INT | 254 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 36 | BT

Fenton, Michael — Desmos
A Different Approach to Personalization
For some, personalizing the math classroom means computer cubicles, digital badges, and every student working on something different. This isn’t why I entered teaching. And it isn’t what’s best for students. In this session, we’ll explore another way to personalize – and humanize – the math classroom by infusing it with creative and social experiences.
6-8 | INT | 401 | Saturday, 1:30 - 3:00 | Asilomar, Fred Farr Forum | BT

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**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.
Fish Doto, Darlene — Educator, SCCLC/UCLA Lab School

**Counting Complex Collections in the Upper Grades**
What does Counting Collections look like in the Upper grades? How do we extend the foundational work accomplished in grades K-2, to grow with our students? How and what can children count in the way of very large collections? What kinds of collections encourage multiplicative thinking and allow us to tackle the mathematical properties? The benefits of developing stronger collaboration, communication skills, and complex recordings to further mathematical understandings will be discussed.

3-5 | INT | 251 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 33 | BT
*Co-presenter: Julie Kern Schwerdfeger — Teacher, UCLA Lab School*

**Flynn, Mike — Director, Mount Holyoke College**

**Understanding and Addressing Resistance in Math Education**
Encountering educators that are resistant to change is a common challenge for many leaders and it is easy to slip into an unproductive “us versus them” frame of mind. In this session, we will look at the root causes of resistance and explore productive strategies that will help educational leaders and coaches support all teachers through the change process. Finally, we will review a powerful framework that can help make the change process easier for all stakeholders involved.

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

**Foster, David — Director, SVMI**

**Apprentice and Expert Tasks**
Math performance tasks are essential curricula for mathematically powerful classrooms. Teachers are often challenged with insuring that ALL students have access into high cognitive mathematics. The use of coupling apprentice and expert tasks is a great strategy to address this challenge. This session will introduce these strategies and share apprentice and expert tasks for grades K-12.

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

**Foster, Hallie — Terra Linda HS**

**1 If By Hand, 2 if By Ge(ogebra)**
Some discoveries in geometry are done well by paper folding, compass and straight edge constructions, or with patty paper. Some discoveries are better explored with dynamic geometry software. This session will introduce lessons where students begin their exploration by hand and then use dynamic software to deepen their findings. All of the roads lead to reasoning. You will explore geometric ideas by hand and tech, and will leave with lesson ideas that continue this pattern of learning.

6-8 | INT | 150 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 23 | BT

**Fulton, Brad — Mistletoe ES**

**Math Games that Motivate and Educate**
These are no ordinary games. Mathematical rigor and fun both abound. All the games are easy to implement and produce effective results. Practice the skills with excitement and engagement. All content areas are covered. A classroom-ready handout is available.

3-5 | PRS | 518 | Saturday, 3:30 - 5:00 | Asilomar, Merrill Hall | BT

**Galasso, Sarah — Senior Manager of School Partnerships, Carnegie Learning**

**Literacy in the Math Classroom: Unlocking Student Voices**
Communication and literacy in math have never been more important than they are now, but how do we incorporate reading and writing into our classes? Using context rich scenarios, we will focus on reading and writing strategies to develop a deeper understanding of math, a voice for all of our students, engage in math practices and provide optimal formative assessment.

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

**Gale, Mardi — Senior Research Associate, WestEd**

**Launching Performance Tasks and What are They Good For?**
What makes performance tasks effective, successful learning experiences and provides formative assessment for teachers? And how many do students need to do? How do we use them to encourage student voices? Then, what do we do with the student work? Experience essential elements for launching performance tasks allowing for application of skills and maintaining rigor. Ideas for using these tasks to their full potential.

GI | PRS | 102 | Saturday, 8:00 - 9:00 | Asilomar, Kiln | BT

**Glynn, Peter — Math Specialist, Crane Country Day School**

**Division of Fractions: Empowering Students with Visual Model**
Traditional instructional strategies for teaching division of fractions are typified by memorization of procedures. We show an alternative instructional strategy to empower students to obtain conceptual understanding by the use of visual models.

6-8 | INT | 516 | Saturday, 3:30 - 5:00 | Asilomar, Nautilus East | BT

**Gomez, Emiliano — MDTP Site Director, UC Berkeley**

**Gerrymandering for Budding District Map Drawers**
Come learn the basics for making some voices louder and others unheard! Do you want an election to turn out in your favor? Why rely on fairness? We will learn the mathematical tools of packing and cracking, and use them to alter election results by redrawing electoral district maps. We will also discuss the merits and shortcomings of the “efficiency gap,” a formula that attempts to detect and reject unfair maps.

8-12 | INT | 535 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 6 | BT
*Co-presenter: Risa Wolfson*

**Gomez, Juan — Math Teacher/Coach**

**Creating Rabbit Holes via Mathematical Applications**
Secondary teachers are tasked with teaching students with a wide range of interests, aptitudes, and prior math experiences. How do you differentiate instruction while still ensuring content is covered? Come learn how to create a mathematical routine that fosters intellectual curiosity through applications. We will focus on finding applications and integrating them into your secondary math classroom. You will receive digital resources you can modify to fit your classroom practices.

8-12 | INT | 141 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 21Lab | BT

**Gonzalez, Juan**

**Moving Beyond Popsicle Sticks**
We need to work to rehumanize our math classrooms. Student stories can engage diverse learners in math content in authentic and relevant ways. We will explore tasks and strategies for eliciting, engaging and capitalizing on student ideas, starting by valuing and creating space for student voice through their own stories.

8-12 | INT | 150 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 32 | BT
*Co-presenter: Scott Paine*

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Graysay, Duane — Assistant Professor, Syracuse

*Effective Questions to Get Students to Think Mathematically*

How do you find out what students know? How do you support their problem solving without doing the math for them? Participants will join us in exploring how to enact teaching practices from Principles to Actions using a set of communication moves to elicit evidence of student thinking and to advance student thinking. We will examine some mathematical problems, plan how we might support students in those problems, and use tools to reflect on some cases of classroom teaching.

**8-12 | INT | 143 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 24 | BT**

*Co-presenter: Benjamin Freeburn — Mathematics Education Consultant*

Griffin, Frank — Teacher, Cate School

*Three Easy Ways to Maximize Student Voices in the Classroom*

Participants will explore problem-based learning activities and inquiry-based techniques where students demonstrate their understanding through discussion, presentations, and problem-solving process journals. Their voice is heard through their explanations and expressed in writing through personal reflections. Integrated activities include problems in algebra, geometry and trigonometry. Free, classroom-tested, problem sets with teaching resources using Desmos and iPads will be shared.

**8-12 | INT | 315 | Saturday, 11:00 - 12:00 | Asilomar, Triton | BT**

*Co-presenter: Taylor Wyatt — Teacher, Cate School*

Grip, Bruce — Field Faculty Advisor, Claremont Graduate Univ.

*What If All Students Were Smart in Math*

...and we only valued a few because our definition of “math smart” was too limited? What we define as “good in math” and how we measure “good” unfairly disadvantages some students, impacts their math identity and stops their journey.

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

Habecker, Duane — Math Coordinator, Merced COE

*Integrating ELD Strategies in Mathematics*

In this session we will learn language-rich strategies to effectively engage ELs in high-quality mathematics instruction. We will also explore how to seamlessly adapt your curriculum to connect mathematical understanding with language development.

**PK-5 | INT | 350 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 32 | BT**

Hallam, PJ — Teacher Trainer, Time To Teach

*You Can’t Hear My Voice If I’m Not in the Room*

NCTM’s position on equity states that factors contributing to differential access to high-quality mathematics instruction must be addressed. With research consistently indicating that African American students disproportionately miss classroom instruction due to behavioral issues, this interactive session helps educators by modeling effective strategies that use students’ voice and agency to establish mutual understandings and routines which support students’ self-accountability development.

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

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**Please stay on the paved pathways**

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How do you find out what students know? How do you support their problem solving without doing the math for them? Participants will join us in exploring how to enact teaching practices from Principles to Actions using a set of communication moves to elicit evidence of student thinking and to advance student thinking. We will examine some mathematical problems, plan how we might support students in those problems, and use tools to reflect on some cases of classroom teaching.

**8-12 | INT | 143 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 24 | BT**

*Co-presenter: Benjamin Freeburn — Mathematics Education Consultant*

Griffin, Frank — Teacher, Cate School

*Three Easy Ways to Maximize Student Voices in the Classroom*

Participants will explore problem-based learning activities and inquiry-based techniques where students demonstrate their understanding through discussion, presentations, and problem-solving process journals. Their voice is heard through their explanations and expressed in writing through personal reflections. Integrated activities include problems in algebra, geometry and trigonometry. Free, classroom-tested, problem sets with teaching resources using Desmos and iPads will be shared.

**8-12 | INT | 315 | Saturday, 11:00 - 12:00 | Asilomar, Triton | BT**

*Co-presenter: Taylor Wyatt — Teacher, Cate School*

Grip, Bruce — Field Faculty Advisor, Claremont Graduate Univ.

*What If All Students Were Smart in Math*

...and we only valued a few because our definition of “math smart” was too limited? What we define as “good in math” and how we measure “good” unfairly disadvantages some students, impacts their math identity and stops their journey.

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

Habecker, Duane — Math Coordinator, Merced COE

*Integrating ELD Strategies in Mathematics*

In this session we will learn language-rich strategies to effectively engage ELs in high-quality mathematics instruction. We will also explore how to seamlessly adapt your curriculum to connect mathematical understanding with language development.

**PK-5 | INT | 350 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 32 | BT**

Hallam, PJ — Teacher Trainer, Time To Teach

*You Can’t Hear My Voice If I’m Not in the Room*

NCTM’s position on equity states that factors contributing to differential access to high-quality mathematics instruction must be addressed. With research consistently indicating that African American students disproportionately miss classroom instruction due to behavioral issues, this interactive session helps educators by modeling effective strategies that use students’ voice and agency to establish mutual understandings and routines which support students’ self-accountability development.

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

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**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.
Hoos, Shannon — Teacher
Choice Boards: A Choose Your Own Math Adventure
Choice boards provide access and equity, organizational freedom, honor student voice, and empower them to take control of their own learning. Learn how to implement choice boards for individualized learning while making the most of your instructional time. We will explore how students can prove content mastery in a variety of ways while developing 21st century skills and mathematical practices. We will also discuss challenges, feedback tips and strategies for classroom management.
6-8 | INT | 543 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 24 | BT

Hua, Lyra — Curriculum Coordinator, East Side Union HSD
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 | 212 | Saturday, 9:30 - 10:30 | Asilomar, Nautilus East | BT

Huff, Brad — Coordinator, CSU Fresno
How Big? Making Proportional Reasoning Real
When asked how much bigger one quantity is than another, many people subtract rather than find the ratio. Their answer is correct, but overlooks the importance of thinking proportionately, such as finding rates, such as interest. This presentation uses examples from literature: Gulliver’s Travels and Alice in Wonderland to illustrate the usefulness of proportional thinking as well as physical examples: if people were half your height, would their natural gait be half as fast?
GI | PRS | 216 | Saturday, 9:30 - 10:30 | Asilomar, Nautilus East | BT

Igual, Dionne — Teacher, Hayward USD
Math Talks TK-2
Math Talks are quick, 10 minute lessons that encourage students to create mental strategies for solving different math problems and equations. They allow students to agree and disagree with strategies and/or answers in a respectful and productive manner. They also promote exposure to many different ways to solve the same problems. Come learn about different types of math and number talks that will keep your students interested and engaged all year.
PK-2 | PRS | 335 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 6 | BT
Co-presenter: Laura Pesavento — DLI Teacher, Hayward USD

Jain, Isha — Math Teacher, Synapse School
Student Voice in Project-Based Learning
Project-based environments provide opportunities for authentic learning, increasing students’ voice and choice through an open-ended process. In this interactive session, we will explore how we can take student interests and convert them into authentic learning opportunities to deliver interdisciplinary projects. We will work in groups to design projects centered around student interest, and identify avenues for skills acquisition, practice, and assessment of math content.
6-8 | INT | 436 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 7 | BT

Jemison, Todd “TJ” — Education Consultant
How Our Beliefs Impact Student Learning
Budgets are tight. Program materials and teacher training are expensive. How can we get the most bang for our education buck? When all teachers truly believe every student can learn and grow student achievement increases. We will explore how to impact teacher and student beliefs about their ability to learn. We will examine some resources and collaboratively work together to brainstorm additional ways to positively impact teacher beliefs.
GI | INT | 105 | Saturday, 8:00 - 9:00 | Asilomar, Evergreen | BT

Jorgens, Paul — Teacher, Palo Alto USD
Fire Up the Math Classroom with Conversation
How can we bring the voice of all students into the classroom? How can we start each class with an energizing accessible activity to launch the lesson? We will bring our favorite routines from our middle school classrooms that encourage student discourse. In this session, participants will engage in tasks that promote conversation and explore how tools such as Desmos can help the teacher facilitate the discussion.
6-8 | INT | 235 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 6 | BT
Co-presenter: Richard Hung — Teacher on Special Assignment, Palo Alto USD

Joyce, Martin — Math Teacher, Millbrae ES
Creating Graphs in Desmos to 3D Print
Remember ceramics or wood shop class when you brought home a flower pot or drink coaster you had worked on? Let’s do the same with an artifact from math class. Join us in creating your own Desmos name tag using linear functions and beyond, and then prepare it for 3D printing. Scaleable from 5th to 12th grade! Bring a device.
8-12 | MIFI | 460 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Library A | BT

Jain, Amanda — Math Teacher, Carondelet HS
Figure it Out! Putting Students in the Drivers Seat
This session will share various strategies for shifting the classroom paradigm from teacher-driven to student-driven. When students act as their own teachers (figuring out concepts, planning their own review sessions, reflecting on their discoveries and making connections on their own) their learning is deeper and more sustaining. Examples include: Reverse Engineer Teachable Content; Design Think Assessment Review; What do you know/What do you wish you knew/What do you wonder activities.
8-12 | PRS | 107 | Saturday, 8:00 - 9:00 | Asilomar, Acacia | BT

Kawalek, Cyndee — Cyndee’s Teacher Training
Differentiating Does Not Have to Be Hard!
Understanding how to use students modes of reception and multiple intelligences is the first step in DI. First and foremost, a teacher does not need to to develop each lesson plan to meet every student’s needs. Each lesson plan can use three modes of reception and fit in as many learning styles as is feasible. Each student can benefit from this approach as they can utilize their learning strengths and pull from weaker areas to enrich their learning and experience authentic learning success.
Tchr Ed | W | 241 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 21 Lab | BT

Hashtag: CMCMath
Kempster, Vriana — Math Specialist, San Francisco USD  
**Playing with Data: Dynamic Statistics in Grades 6 through 9**  
How do you bring creativity and student voice into the exploration of statistics? You’ll experience how to bring the Common Core statistic standards to life by exploring a rich dataset using free online technology. We’ll analyze how the standards from grades 6, 7, 8, and Algebra progress using the technology exploration to anchor the discussion. We’ll see how students have the freedom to ask and answer their own questions using dynamic representations. Bring a laptop or tablet.  
6-8 | INT | 142 | Saturday, 8:00 – 9:00 | Pacific Grove MS, Rm 22 | BT  
Co-presenter: Elizabeth DeCarli — Math Specialist, San Francisco USD

Kenyon, Glenn — Math Content Specialist, San Francisco USD  
**Making Math Visual: The Power of Tape Diagrams K-6**  
Students are empowered when they can strategically use tools to make sense of and solve increasingly complex math problems. Participants will learn how tape diagrams can be used to make sense of different types of problems, identify math relationships, and justify thinking. They will discuss how the tape diagram helps distinguish between the different problem types with each operation. Participants will experience a scope and sequence starting in early elementary up through 6th grade.  
PK-5 | INT | 450 | Saturday, 1:30 – 3:00 | Pacific Grove MS, Rm 32 | BT  
Co-presenter: Kawthar Duncan — Content Specialist, San Francisco USD

Khalsa, Arjan — STEM Advocate, Conceptua Math, Activate Learning  
**5-Minute Journal Prompts: Formative Assessment with Flair**  
What takes 5 minutes, includes models, text, and numbers, and has the highest correlation to student achievement of any activity? You guessed it: Journal Prompts! Learn to design “exit tickets” that engage your students while guiding your practice. Can students construct viable arguments? Yes! Make the last 5 minutes their favorite part of the lesson. See how movement from hands-on manipulatives to visual representations to procedures promotes written work that students love.  
PK-5 | INT | 406 | Saturday, 1:30 – 3:00 | Asilomar, Scripps Conference | BT

Kim, Taik  
**Making Sense of Multiplication**  
Common Core State Standards suggests that 4th graders should be proficient in multiplication of a whole number of up to four digits by a one or two digit whole number, using strategies based on place value and the properties of operations. This session will provide information on how teachers can improve children’s abilities in multiplication using equations, rectangular arrays, and/or area models. The speaker will present a variety of strategies and innovative ways to teach multiplication.  
3-5 | INT | 133 | Saturday, 8:00 – 9:00 | Pacific Grove MS, Rm 4 | BT

Knotts, Angela — Research Associate, WestEd  
**Increasing Access to Algebra by Examining Worked Examples**  
How can worked examples increase access to Algebra success for more students? Come learn how lessons built around analysis of both correct and incorrect worked examples can provide opportunities for engagement and deep understanding for diverse groups of students. We’ll discuss two student solutions – one correct and one incorrect – and explore a lesson focused on making sense of both work samples. We also share discussion builders, sentence frames, other tools that support worked example lessons.  
6-8 | INT | 347 | Saturday, 11:00 – 12:00 | Pacific Grove MS, Rm 28 | BT  
Co-presenter: Katie Solguero — Research Associate, WestEd

Stop by the **CMC-Hub** in Afterglow, Saturday, between 8:00-5:00 to learn about the **Scavenger Hunt** and your chance to win a $250 voucher for any one of our three conferences!
Lahme, Brigitte — Professor, Sonoma State Univ.
**Number Lines: A Journey Through Middle School**
Number lines are a powerful tool for developing conceptual understanding and number sense throughout middle school math. Students can use number lines to investigate concepts of ratios, percentages, and rational numbers (6th, 7th) and large and small numbers with scientific notation and decimal representations of rational and irrational numbers (8th). We will explore number line examples from the Illustrative Math open education resource curriculum to tell a coherent story through middle school.
6-8 | INT | 358 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 23 | BT
Co-presenter: Kathy Moins

LaPier, Eben — Math Specialist, Synapse School
**Building Math: Designing Project-Based Curriculum**
How do you build project-based lessons that also address necessary math skills? How can you use the tools you have to create something long-lasting, meaningful, and mathematically relevant? We will explore the answers to these questions and more through a two year cycle of Synapse School’s project-based 7th and 8th grade math curriculum, experience hands-on problems from Geometry, Statistics, and Algebra projects, and discuss how we create project-based curriculum from the ground up.
6-8 | INT | 204 | Saturday, 9:30 - 10:30 | Asilomar, Oak Shelter | BT
Co-presenter: Federico Chialvo — Director of Mathematics, Synapse School

Lara, Mayra
**Math as a Lever for English Learner Equity**
Join The Education Trust-West and Dr. Ivannia Soto to learn promising practices for advancing math learning for English learners. Participants will engage with a protocol for shadowing English learners, as well as practice instructional strategies to cultivate academic language mastery in mathematics. Participants will leave with instructional resources and recommendations for school and district level practices to advance access and equity for English learners.
GI | INT | 458 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 23 | BT

Leamons, Crista — Instructional Coach, Cupertino Union SD
**Talks and Tasks: Access and Agency for Students with IEPs**
Balancing access to content curriculum and time for targeted interventions in a single period is one of the most difficult parts of meeting the needs of our students with IEPs. In this session, we will learn number sense/fluency routines and problem solving routines that can become a part of your daily teaching practice. These routines provide opportunities to both access content and bridge gaps for our students.
6-8 | INT | 243 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 24 | BT
Co-presenter: Sarah Kurzdorff — Instructional Coach, Cupertino Union SD

Lee, Karin — Teacher, San Jacinto USD
**The Math Writing Sojourn**
I don’t know about you... but I chose to teach math because I didn’t have to write! Now we all do! As we head down that path, students and teachers alike are discovering that writing can be an interesting and useful tool for us all. We will show how we have spent the last year slowly adding writing in short bursts so that our students incorporate writing in their everyday lessons. By adding writing, we support a standards continuum that spans the educational landscape.
8-12 | INT | 342 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 22 | BT
Co-presenter: Jordan Smith — Teacher, San Jacinto USD

Leinwand, Steve — Principal Research Analyst, American Institutes for Research
**The Surprising Power of Gradual Release in Our Math Lessons**
Teachers have known for years the power of gradual release when teaching reading. It’s time to apply this powerful strategy to mathematics. In this fast-paced, example-laden presentation we’ll look at using the gradual release strategy - supported by animated slides - on word problems, data tables, graphs, patterns, videos and geometric figures - all in support of generating higher levels of interest and motivation.
GI | PRS | 353 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Auditorium | BT

Leon-Castella, Alejandra — Director, CIENTEC
**Math of Every Day- eBook with Multimedia in Spanish**
Presentation of a collaborative project that started as short radio programs in Costa Rica to promote interest in math in daily life, through stories and connections. The initial resources were later expanded with curiosities and more, to produce an illustrated book (republished by Editorial Tecnologica 2016). Since it has been very successful it was transformed into a larger project, that gathers the radio programs and further animations into a multimedia eBook (2017).
GI | PRS | 215 | Saturday, 9:30 - 10:30 | Asilomar, Triton | BT | $5

Levinson, Rita — Math Teacher, Peninsula Bridge
**Students as Puzzle Makers: Developing Algebraic Thinking**
Explore puzzles that help students build understanding of important algebraic concepts while practicing problem-solving strategies. Students love puzzles, but their engagement gets even deeper when creating their own for peers to solve. Even students whose voices are usually quiet in math class enjoy presenting their own activities. Investigate several types of puzzles that lend themselves to being adapted by students at different levels. Come prepared to solve puzzles and create your own.
6-8 | INT | 542 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 22 | BT

Lewis, Tom — Math Coach, Napa Valley USD
**Student Ownership with Their Learning Progress**
Four simple questions have taught our students how to self-report their grade – accurately and with clarity. Harvest I.B. Middle School has implemented these 4 questions and a tool called a “Progress Chart” with HUGE impacts on our students’ learning. Come learn about the 4 questions, what a “Progress Chart” is, how it works, how to create them for your units, and how to use them early, often, and ongoing in your classroom and see how this has changed the way we teach and our students learn.
6-8 | PRS | 210 | Saturday, 9:30 - 10:30 | Asilomar, Curlew | BT
Co-presenter: Meiko Smith — Math Teacher, Napa Valley USD

Lindaman, Brian — CSU, Chico
**Unusual Shapes, Angles, and Supercool...wait for it...Wallpaper**
Looking for ways to inspire your students to access the beauty in geometry? Come explore several inquiry-oriented activities which enable you to lead your students on a journey into a realm of unusual angles, Golden shapes, pentagons, and the coolest wallpaper ever! The activities are designed to foster classroom discourse about fundamental principles of geometry, as well as connections to art, history, and nature. Let your students wonder, wander, and, ultimately, widen their geometry gaze!
8-12 | MITT | 446 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 27 | BT

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Stop by the CMC-Hub in Afterglow, Saturday, between 8:00am-5:00pm and pick up your swag!
Lomeli, Elizabeth — Teacher, Placer HS
**Dirty Dozen Countdown: Choice for Student Voice**
Do you want to establish a classroom where every student feels like they are being heard? This session will address 12 simple yet effective strategies to obtain feedback from your kids regardless of ability or confidence level. Come learn games, witness visual communication tools, experiment with apps, and use google forms to create graphical representations of student responses. This will be a fast-paced presentation. Please bring a device for best access to the activities.
8-12 | INT | 256 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 38 | BT

Loomis, Caroline — Math Teacher, Davis Joint USD
**Slice it up! Discussing Equal Sharing Fraction Strategies**
Learn about the five-level framework for the learning trajectory for equal sharing problems. Using the principals of Cognitively Guided Instruction, this framework enables teachers to engage in formative assessment so they can orchestrate classroom discussions to advance the thinking of children at different levels of understanding. We examine and reflect on student video and work samples and learn about the framework by interpreting student’s thinking and using it to plan focus discussions.
PK-5 | INT | 103 | Saturday, 8:00 - 9:00 | Asilomar, Heather | BT

Luberoff, Eli — Founder of Desmos
**Building Social+Creative Classrooms with Technology**
At its best technology fosters creativity and connects people. Too often in classrooms, however, technology is isolating and stultifying: videos, writing numbers in blanks. Together, we’ll look how technology can support a social and creative classroom.
8-12 | PRS | 206 | Saturday, 9:30 - 10:30 | Asilomar, Scripps Conference

Luzniak, Chris — Math Teacher, The Archer School
**Debate That! Empowering Students Through Debate in Math**
Imagine: Debate, often a staple of the humanities classroom, as an integral part of your math class! Debate activities are known to increase student achievement and understanding. So let’s explore ways to incorporate debate into your every day lessons. Come learn and experience techniques and routines for creating a healthy math-debating classroom that will empower and engage students of all levels.
8-12 | INT | 116 | Saturday, 8:00 - 9:00 | Asilomar, Nautilus East | BT

Marin, Christina — Math Teacher
**Blow It Up! Facilitating Controversial Sorting Task Debates**
Have you ever led an awesome sorting task only to have the end of class fall flat? Have you felt unsatisfied because groups have unresolved misconceptions and are in all different places? We will explain our method of making giant versions for the class to see, move, and debate. We will share strategies about how to keep the controversy flowing, incorporate debate into your every day lessons. Come learn and experience the strategies firsthand.
6-8 | INT | 333 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 4 | BT

**Co-presenter: Brittany Leknes — Math Teacher**

Martin, John — Math Teacher, Santa Rosa Junior College
**Photomath: Friend or Foe**
The free app Photomath can solve many textbook problems and its latest version can also recognize handwriting. The app not only gives an answer, but it also shows the steps in the solution process. Your students know about Photomath, do you? Join us for a lively discussion on the pros and cons.
8-12 | PRS | 202 | Saturday, 9:30 - 10:30 | Asilomar, Klin | BT

**Co-presenter: Gale Bach — Math Teacher, Santa Rosa Junior College**

McCaw, Shannon — Consultant and Author, EdGems Math LLC
**Engaging All Students in Rigor**
In this workshop, teachers, instructional coaches and administrators will learn strategies for increasing student engagement that can be easily inserted into the daily classroom routine. Teachers will be provided with structures to engage ALL levels of students in a classroom in addressing conceptual understanding, procedural skills and application. Participants will play the role of middle school math students to experience the strategies firsthand.
6-8 | INT | 515 | Saturday, 3:30 - 5:00 | Asilomar, Triton | BT | $5

McDowell, Denise
**Using Feedback to Motivate Learning**
B.R. Jones, Superintendent, said what is different between a video game challenge versus the challenge of learning? The answer to that question is feedback. In this workshop we will examine feedback and the three essential questions that guide the process: where are you going, where are you now, what next steps are you going to take?
3-6 | INT | 250 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Room 32 | BT

McEntee, Rhonda — Teacher
**Students Voice Through Math Talks**
In this fast paced session participants will be presented with numerous math talks. Math talks are a great way to get your students talking math! You’ll learn the importance of doing them, how to structure them, as well as practical strategies and applications. Walk away with many ready-to-try first thing Monday morning talks.
3-5 | INT | 504 | Saturday, 3:30 - 5:00 | Asilomar, Oak Shelter | BT

McKenzie, Doug — Math Teacher, Crane Country Day School
**Sequences: The Foundation for Understanding Linear Patterns**
From 6th to 8th grade, students develop their understanding of algebraic expressions and “px+q” or linear equations. Behind the equations, tables and graphs, numerical patterns can help explain how they all fit together. I will share how my students explore linear patterns, use them to write expressions and equations, and explore tables and graphs to lay the groundwork for slope and intercept in 8th grade. We will also look at related online resources such as visualpatterns.org and Desmos.
6-8 | INT | 144 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 25 | BT

McLean, Peggy — Math Specialist, Synapse School
**Mirror Explorations**
Using different configurations and types of mirrors, predict and observe the changes resulting from sliding, flipping, and turning three dimensional objects. Identify and describe line and rotational symmetry by folding paper polygons. Test understanding by building designs that demonstrate different symmetrical properties. This is a hands-on workshop! Handout provided.
3-5 | INT | 240 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 13 | BT

**@CAMathCouncil**
McNamara, Julie — Assistant Professor, Cal State East Bay
You Want Students to Talk? Give Them Something to Talk About
Engaging students in rich mathematical discourse can be challenging due to a variety of reasons. Students often feel that unless they know the one “right” answer, their ideas are not worth sharing. This session focuses on several routines that encourage students to think creatively and flexibly about mathematics, and can be implemented in classrooms from kindergarten to grade 12. We’ll also work together to prepare for responding to students’ ideas and plan for unexpected student responses.

Mendle, AI — Lecturer/Supervisor, UC Davis
Build and Use an Abacus
Participants will build a suanpan or a simplified Chinese abacus out of craft sticks, pony beads and dowels. Once built, participants will begin to look at how it can support mathematical thinking in the classroom. Without the use of batteries and technology, this amplified place value device can be used by elementary students to think about multiple representations and invented algorithms. And be warned, it’s fun to make and use but it can be challenging!

Meyer, Dan — Desmos
Recipes for Mathematical Surprise
If our students wrote down adjectives to describe math class, “surprising” might not make the top ten. And yet surprise is an emotion that makes us interested, prepares us to learn, and prepares us to prove. We’ll experience mathematical surprise and discuss three recipes for creating surprise throughout K-12 mathematics.

Miller, Zack — Director of Math Curriculum, Summit Public Schools
Many People Hate Math but Love Stories: What an Opportunity!
Cognitive scientists and marketing wizards agree: stories are immensely powerful. Humans are hard-wired to find stories inherently appealing, easy to understand, and memorable. They are mankind’s most efficient compression algorithm. Other industries capitalize on this by baking their messages into stories. Math class should take note. Bringing stories and their structure into class can increase engagement and learning and also acknowledges students’ humanity. So how might we do it better?

Morrison, Patty — Teacher, CMC Central
Using Literature to Teach Math in the PreK to 1st Grade
Literature is a great way to teach Math! Children love a good story! Using that story to teach a math concept helps children get engaged! I will be presenting lessons I wrote that were published in the ComMunicator. I will also be giving each participant a book to take with them! Come and get some ideas to take back and use on Monday!

Morikawa, Michelle — Level II Lead Teacher, Synapse School
Ancient Architecture Excites Young Learners
In this session, teachers will be introduced to an integrated study of the Maya in a lower elementary classroom. Participants will use geometric concepts such as area, perimeter, and spatial reasoning, as well as the four operations. These math concepts will be integrated with social studies content and social justice themes in a hands-on investigation. Reviewing social studies standards, teachers will be encouraged to consider connections to their own curriculum and classrooms.

Morris, Kathy — Professor Emeritits, Sonoma State Univ.
Maker Tasks for Mathematics: Make a Measuring Tool
Learn about an innovative approach to incorporating Maker Ed into your teaching. This hands-on session provides a model for teaching grade level math through a maker-math cycle. You will make an accurate yardstick or trundle wheel with minimal tools, rapidly prototyping and revising. You’ll see how students take up these challenges, exploring important measurement ideas and math practices (tools and attend to precision). We’ll explore how the math extends through the grades.

Moskowitz, Stuart — Humboldt State Univ.
Lewis Carroll Would Have Been a Great School Math Teacher!
Charles Dodgson, aka Lewis Carroll (Alice in Wonderland), was an uninspiring math teacher at Oxford U. But away from Oxford, he used puzzles and games to make math meaningful and he used math to bring meaning to things not mathematical. After he visited a high school, a child wrote: “…to our surprise the lecturer appeared with a large black handbag, from which he proceeded to draw white envelopes…we were to play a game!” Dodgson practiced Common Core guidelines 100 years before they were written!

Mudde, Amanda — Math Teacher
Creation of Math Projects with Low Floor and High Ceilings
In this session, we will discuss how we created a number of projects, small and large, which promote student growth and mathematical competency. We will explore how to create rubrics, promote student reflection, guide students through the process, and discuss grading practices. Participants will discuss ways to modify these projects to fit their particular schools and workshop a new idea. Participants will leave with timelines and documentation of many of the projects discussed in the session.
Mulhearn, Dennis — Retired Teacher, Valley Stream South HS

Excite and Energize Teaching Area by Using Contest Problems

Help teaching area at the middle school level can be found in an unexpected place – math contests. Participants will be shown ways to develop higher-order thinking in students, using rich, authentic problems that allow for multiple methods of solution. The teaching of problem solving will be modeled with an emphasis on permitting participants to take ownership of the problems and solutions. Participants will leave with these and over 50 additional rich problems.

6-8 | INT | 556 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 38 | BT

Cubes Offer a Rich Setting for Problem Solving

A cube is the starting point for many rich problems. Stack cubes, count cubes, paint cubes and do some real math at the same time. Work on a dozen classic problems. The setting may be geometric but many topics and concepts are involved including factors, combinatorics, volume, surface area, networks. Take home these and more than 50 additional problems.

3-5 | INT | 131 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 1 | BT

Nank, Sean — Professor, CSU San Marcos

Seven Steps for Adapting Technology in a 1:1 Environment

Has your school or district spent money on technology only to see lackluster results? Come discuss the seven steps that can aide in using technology in math classrooms in a meaningful way. We will address lessons learned during a quarter of a million dollar 1:1 implementation program, discuss how classrooms were able to work toward a zero percent failure rate, and see how these lessons can inform your district, school, and classroom.

6-8 | INT | 110 | Saturday, 8:00 - 9:00 | Asilomar, Curlew | BT

Nathan, Ben — Teacher, Berkeley HS

Wrong Classroom: Using Incorrect Answers to Build Learning

The presenter will share strategies, activities, and student sample work to show how incorrect responses from students can enrich the learning environment. There will be specific examples of methods used in diverse, urban mathematics classrooms that have increased access to the material and equity. By focusing on the use of incorrect responses to facilitate lessons, attendees will be better able to engage and involve students while creating deeper learning through student input.

8-12 | PRS | 311 | Saturday, 11:00 - 12:00 | Asilomar, Sanderling | BT

Newton, Roberta — Author/Consultant, Newton Education Solutions

Math Running Records in Action

Math Running Records is an assessment system that helps us to unpack the basic fact fluency levels of K-5 learners. It is used to get evidence about where students are stuck and then plan a developmentally appropriate learning trajectory. It is the GPS of fluency, now being used in countries such as the U.S.A. Canada, Qatar and Japan. In this workshop, through videos and discussion, Dr. Nicki explains what they are, how to administer and analyze them, and then develop data driven instruction.

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

Counting: It’s More than 123

In this session Dr. Nicki will discuss the 20 levels of counting and the implications for the primary classroom. We will look at assessment and data driven activities for daily math routines, guided math and math workstations. We will also discuss how to differentiate these lessons based on the nuances of the levels and discuss the important question of rigor and what that looks like in designing counting activities. Come join us for games, songs, and activities that engage and teach.

PK-2 | MITI | 134 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 5 | BT

Nguyen, Ho — Math Program Administrator, San Francisco USD

Focal Students: Focus the Lens, Deepen the Learning for All

Ever feel overwhelmed by the number of students and the diversity of their needs? Learn how we can look at 2-3 focal students to deepen the conversation around teaching and learning. Develop a strengths-based lens through the discipline of documenting student strengths and their connection to teacher moves. Coaches and teams of teachers can work together to think deeply about what it means to be a student in an equitable classroom, where agency and self-identity are promoted and valued.

6-8 | INT | 209 | Saturday, 9:30 - 10:30 | Asilomar, Marlin | BT

Co-presenter: Mary Maher — Math Coach, San Francisco USD

Ortega, Courtney — Math Coordinator, Oakland USD

The TRUTH About PLCs

In Oakland, site math teams use the Teaching for Robust Understanding (TRU) framework to plan and reflect upon individual lessons and overall teaching practice. This has transformed business-centered department meetings into student-centered PLCs, focused on examining what students say and do. Experience the TRU tools by watching classroom video, using questions from the Observation Guide and Conversation Guide to do a deep dive into one TRU dimension - role playing a PLC conversation.

8-12 | INT | 111 | Saturday, 8:00 - 9:00 | Asilomar, Sanderling | BT

Co-presenter: Mary Reed — Math Specialist, Oakland USD

Patterson, Brandolyn — Teacher, Mill Valley SD

Achieve Equity of Voice Through Global Competence

By teaching through a global lens (and implementing other research based practices), we can create classrooms in which equity of voice (and opportunity) is achieved and the achievement gap closed. Come prepared to discuss, and learn from others how you have changed (or would like to change) your pedagogy to foster equity.

6-8 | INT | 346 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 27 | BT

Paul, Cristina — Dual Language Demonstration Teacher, UCLA Lab School

Curiosity and Student Ownership of Ideas: Three Act Tasks

The goal of this session is to familiarize teachers with three act tasks and high-leverage mathematics experiences that foster curiosity and collaborative thinking. We will engage in a warm-up that builds understanding and offers opportunities to move and talk about fractions. Together, we will engage in a three act task and share resources. Finally, we will reflect upon how to choose, use, and create high-leverage tasks that are responsive to our students’ mathematical curiosity and lives.

3-5 | INT | 317 | Saturday, 11:00 - 12:00 | Asilomar, Nautilus West | BT

Co-presenter: Rebecca Heneise

Pesavento, Laura — Teacher, Hayward USD

Math Workshop in a Primary Classroom

Math Workshop allows students to create their own mathematical understanding and uncover strategies to solve open-ended problems. They productively struggle with the math independently and then convince other students of their reasoning. In this session, you will learn about: finding problem types, setting up problems, creating an environment for independent work, having students justify and prove their thinking, and debriefing with the intent of highlighting strategies and Math Practices.

PK-2 | PRS | 435 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 6 | BT

Co-presenter: Dionne Igual — Teacher, Hayward USD
Phillips, Breanne — Math Coach, Visalia USD

**Talk Nerdy to Me: Increasing Student Discourse**

This session will take participants through an English-Language Learners math class experience, dissect lesson components, and further investigate where ELL students struggle. Participants will engage in structures and strategies that encourage and support ELL discourse within the classroom. Our objective is for teachers to leave with structures and strategies that can be embedded in instruction and coaches to gain knowledge on how to introduce and support the structures and strategies.

8-12 | INT | 331 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 1 | BT

Co-presenter: Laurie Duerkson — Math Coach, Visalia USD

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Phillips, Perrin — Instructional Coach, Hayward USD

**Launching Math Workshop: Cognitively Guided Instruction**

How can we give students the opportunity to practice explaining their thinking every day? Through Math Workshop, students work collaboratively, shift the classroom culture, while allowing students to go deeper with the Common Core Matrix of Word Problems. Come and learn how to launch Math Workshop, step-by-step. Using a practical, student centered approach, participants will apply what they already know from Writer’s Workshop to Math Workshop!

3-5 | INT | 510 | Saturday, 3:30 - 5:00 | Asilomar, Curlew

Picciotto, Henri — Consultant, MathEducationPage.org

**Reaching the Full Range**

All classes are heterogeneous: students learn math at different rates. What should we do about it? I will present the non-traditional two-prong response I developed in my 42 years in the classroom and 30 years as department chair. a) Some easy to implement strategies on organization, sponsors, activities and ideas to showcase student work.

8-12 | INT | 301 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 13 | BT

Co-presenter: Margaret Dominguez — Math/Science Teacher, San Francisco USD

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Raff, Cynthia — Vice President, Center for Mathematics and Teaching

**An Equation Journey: Strategies to Spark Engagement**

Experience various strategies and engaging problems that develop equation solving concepts. Hook problems, with a low floor and high ceiling, will be explored. Problems presented will show the value of cooperation, not competition. Activities will spark conversation and engage all students in the ownership of learning about equation solving.

6-8 | INT | 434 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 5 | BT

Co-presenter: Shelley Kriegler

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Ray, Solana — Teacher/Consultant, Callahan Consulting

**K-2 Students Creating Beautiful Explanations in Math Class**

Children can start in the primary grades to create beautiful mathematical explanations. If we want our future leaders to be flexible thinkers and powerful communicators, we should begin practicing these skills in the early years. Come learn about resources, instructional strategies and formative assessment tools that provide students, with opportunities to practice and refine the art of communicating reasoning in the primary math class.

PK-2 | PRS | 303 | Saturday, 11:00 - 12:00 | Asilomar, Heather | BT

Co-presenter: Jessica Ball — Math Education Consultant

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Reiff, Elizabeth — Math/Science Teacher, San Francisco USD

**Academic Conversation: You Can’t Do It Alone!**

Do you encourage your middle school students to TALK about Math learning? We do, but we have observed that their talk often consists of one-sided statements that fizzle and flop in the middle of the talk. Join us to explore interactive structures that get students conversing about Math thinking as well as observation data collection tools that will help you analyze patterns: who is talking? to whom? how much? are they responding to each other? does this influence sense making?

6-8 | PRS | 340 | Saturday, 11:00 - 12:00 | Pacific Grove MS, Rm 13 | BT

Co-presenter: Margaret Dominguez — Math/Science Teacher, San Francisco USD

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**Disclaimer**

Out of respect for presenters and other participants, please silence or turn off electronic devices during sessions.
Resek, Diane — Professor Emerita, San Francisco State Univ.
Strategy Games for the Last 10 Minutes of Class
In teaching K-8 classes and university classes for teachers, the students and I sometimes finished my planned lesson early. Rather than starting something new, I would teach them a game that could be won by finding and using a strategy. Participants will play games and discuss winning strategies.
6-8 | INT | 403 | Saturday, 1:30 - 3:00 | Asilomar, Heather | BT

Ritter, Cornelia — Math Teacher
Dialogic Learning: An Inquiry-based Swiss Approach
Through a dialog about a math problem, Ruf and Gallin, two high school teachers and professors for education, realized in the 70s that learning is more than a one-way street from task to answer and established Dialogic Learning with its key components of core idea, assignment, journal, and feedback. The session will focus on how the teacher, by passing out or projecting students works for all to see, fruitfully feeds back great ideas, pearls of mistakes, or different ways of solving a problem.
6-8 | INT | 260 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Library A | BT

Rossiter, Devin — Academic Coach, Walter Stiern MS
Same/Different: A Mathematical Language Routine
The “Same/Different” Mathematical Language Routine (MLR) has been developed in the past ten years. It is designed to bring students into the process of designing their own. The MLR is a powerful strategy for using worked examples, which Dr. Resek has been exploring for the past year. Co-presenters: Lipika Deka — Associate Professor, CSU, Monterey Bay
Rossiter, Devin — Academic Coach, Walter Stiern MS
Dialogic Learning: An Inquiry-based Swiss Approach
Through a dialog about a math problem, Ruf and Gallin, two high school teachers and professors for education, realized in the 70s that learning is more than a one-way street from task to answer and established Dialogic Learning with its key components of core idea, assignment, journal, and feedback. The session will focus on how the teacher, by passing out or projecting students works for all to see, fruitfully feeds back great ideas, pearls of mistakes, or different ways of solving a problem.
6-8 | INT | 260 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Library A | BT

Roth, Marc — Teacher, Main Street Scholars
Bowling Pin Puzzles
Bowling Pin Puzzles were described in Martin Gardner's column on Pascal's triangle. Participants will have the opportunity to discover the various shortcuts to their solutions. The mathematics involved includes algebra 1 (solving equations) and algebra 2 (logarithms). It also includes some accessible enrichment topics such as modular (clock) arithmetic. These puzzles are the ultimate in having a low floor, high ceiling in that they can be used from first grade through college.
8-12 | MITI | 560 | Saturday, 3:30 - 5:00 | Pacific Grove MS Library A | BT

Sagun, Theodore — Mathematics Consultant, UCLA
Choral Counting from Elementary to Middle School
Choral counting is often thought of solely as an elementary school practice. In our time together, we will explore the possibilities for choral counting in middle school and beyond, discuss strategies used in the middle school classroom, and important connections to rates, linear functions, tables and graphs.
6-8 | INT | 145 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 26 | BT
Co-presenter: Brandon McMillan — Mathematics Consultant, UCLA

Salguero, Katie — Research Associate, WestEd
Worked Examples and the Mathematics Teaching Practices
How can teachers use worked examples to support students with challenging algebra readiness topics? In this session, we will examine worked examples, both correct and incorrect, of math tasks related to rational numbers and linear equations. We will also explore how worked examples can be a pathway toward five of the effective Mathematics Teaching Practices from NCTM's Principles to Action publication and support students' engagement in the Standards for Mathematical Practice.
6-8 | INT | 247 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Rm 28 | BT | $5
Co-presenter: Angela Knotts — Research Associate, WestEd

Samaniego, Kimberly — Director, UC San Diego
What Are You Thinking? Engaging in Performance Task Learning
In this interactive session, participants will solve high-ceiling, low-floor tasks designed to elicit evidence of student thinking in support of SBAC Performance Task expectations. We will incorporate student-centered instructional strategies designed to enhance access to the course content and discuss how anticipating students' errors in advance informs targeted follow-up instruction. Teachers walk-away with access to open-ended tasks and strategies ready for Monday's lesson.
8-12 | INT | 509 | Saturday, 3:30 - 5:00 | Asilomar, Marlin Hall | BT

Schaffer, Karl — Math Faculty Emeritus, De Anza College
Let's Get Loopy with Geometry
Mathematics and dance both involve patterns and shapes in space. Learn how to use string and rope loops to engage students by creating movement patterns that demonstrate their understanding of polygons and scale models. Explore similarity by drawing maps to plan dance phrases and work with congruence when creating regular polygons. See how math and dance interact to create accessible ways of leading, assessing, and extending movement experiences in your classroom that align with the standards.
6-8 | INT | 218 | Saturday, 9:30 - 10:30 | Asilomar, Merrill Hall | BT

Stop by the CMC-Hub in Afterglow, Saturday, between 8:00-5:00 and pick up your swag. Learn about the Scavenger Hunt and your chance to win a $250 voucher for any one of our three conferences!
Schneider, Craig — Mathematics Coach, Santa Barbara USD

Mathematical Language Routines: Foster All Students’ Voices
Join us to engage in elementary and middle school content using adaptable routines that promote mathematical sense making and language development simultaneously! We will practice routines that support students to describe mathematical reasoning to others, orally, visually, and in writing. As students develop facility with English and disciplinary language, these routines cultivate equity and access by providing appropriate support to all students to engage in mathematical conversations.
GI | INT | 416 | Saturday, 1:30 - 3:00 | Asilomar, Nautilus East | BT
Co-presenter: Janet Hollister — Teacher on Special Assignment, Santa Barbara USD

Schooler, Lesley — Mathematics Dept. Chair, Carondelet HS

Initial Results of New, Innovative Algebra I Program
Our team-taught Algebra program provides students with challenging, inter-connected math tasks that allow them to struggle, persevere, discover and grow. Students work collaboratively as they self-pace through teacher-designed curriculum working on open ended application problems. Multiple sections of non-tracked Algebra students meet during the same period with four teachers and can go as fast as completing two courses in one year or as slow as completing one course in two years.
8-12 | PRS | 157 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 39 | BT
Co-presenter: Kristina Levesque — Math Teacher, Carondelet HS

Schultz, Tammy — Math Education Consultant, Monterey Bay Area Math Project

Using Teacher Observations to Advance Young Mathematicians
The power of thoughtful listening and careful observation can transform instruction. Through the use of videos and teacher notes, participants will investigate how intentional formative assessment techniques allow for strategic planning, with students working on the edge of their academic development and the structure of mathematics.
PK-5 | PRS | 104 | Saturday, 8:00 - 9:00 | Asilomar, Oak Shelter | BT

Schwartz, Christen — Math Coordinator, Contra Costa COE

Let’s Talk Algebra!
Algebra is not scary! Algebra is in everything we do. Gain strategies to support students in exploring mathematics conceptually, building a deeper understanding of how math works using Algebra Tiles. Connections will be made to algebraic thinking and progressions through grade levels. These strategies support real time implementation and student engagement. Participants communicate reasoning with peers and gain tools to facilitate discussions giving every learner access and a mathematical voice.
6-8 | INT | 148 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 29 | BT

Facilitate Student Discourse Through Math in Science Talks
Many students and teachers see Math and Science as silo disciplines. Participants will explore an increase in student access to phenomena and connections to math in science. We will share our journey of educator collaboration and classroom implementation using prototypes of “Math in Science Talks.” Experience a deepened understanding of key math and science concepts using peer academic conversation and discourse. Bring your math talks to the next level integrating them into your science lessons!
PK-5 | INT | 402 | Saturday, 1:30 - 3:00 | Asilomar, Klin | BT
Co-presenter: Lizzy Hull Barnes — Math Supervisor, San Francisco USD

Scott, Jane — Senior Educational Facilitator, MetaMetrics

The Quantile Framework for Mathematics: Math Differentiation
Differentiating math instruction is critical in helping to prepare students for college and career goals. However, educators need time, tools, and resources to be able to differentiate effectively. The Quantile Framework is here to help! By using a common scale to measure both student readiness and content materials, educators can more effectively address students’ individual needs by using the FREE resources that will be shared.
6-8 | PRS | 540 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 13 | BT

Scott, Lyn — Assistant Professor, CSU, East Bay

Math and Dual Language Learners: What Every Teacher Needs
This interactive session immerses teachers in hearing and experiencing the multilingual voices of their students. Participants will engage in hands-on fraction, pattern, graphing, number sense, and academic language activities appropriate for all students. The session features a language simulation that incorporates CCSS math content and second language principles of teaching English and dual language learners. Teachers will create, evaluate, and reflect on various scaffolds to support students.
PK-5 | INT | 140 | Saturday, 8:00 - 9:00 | Pacific Grove MS, Rm 13 | BT

Sgroi, Richard — Retired Math Teacher, Bedford Central Schools

Using Financial Applications: Real-World Student Discourse
Advanced Algebra with Financial Applications is a perfect 3rd/4th year math course that helps students of ALL ability levels develop their mathematical and financial voices by recognizing the relevance of the math they are learning. The course builds student confidence and advanced algebra competence within the contexts of discretionary expenses, banking, credit, auto ownership, employment, taxes, housing, investing, entrepreneurship, retirement, and budgeting. Handouts will be distributed.
8-12 | PRS | 544 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Rm 25 | BT

Shore, Chris — Math Coach, Temecula Valley USD

We Have Already Built the Wall: In and Between Our Schools
My school’s story of self-discovery reveals that many of the barriers to equity and access that contribute to the achievement gap are built by the well-intended hands of both the decision makers within our schools and the families that we serve. Learn the evidence that you can collect to discover your school’s own story and see some potential solutions to closing the opportunity gap.
GI | PRS | 553 | Saturday, 3:30 - 5:00 | Pacific Grove MS, Auditorium | BT

Making Group Work Work with Less Work
The 21st Century Classroom calls for a great deal of student collaboration. Would you like your groups to be more on-task and productive? Receive very practical principles on giving students a voice by learning WHY to group, WHICH group structures to use, HOW to manage your groups, and WHEN to group.
GI | INT | 453 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Auditorium | 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.
Silva, Douglas — Math Teacher, Santa Maria HS

Nearpod: Effectively Using Technology with 1-1 Tablets
Your students have tablets/ipads/chromebooks but you are not sure how to use them. Kahoot, Quizizz and CoolMath can only take you so far. Actively engage all students and hold every student accountable at all times. Get immediate (formative) feedback in Real-time. Participants will need internet access, you will learn how Nearpod operates and have the tools to create your own lessons! To be beneficial, bring a powerpoint/google slides lesson you have created and enhance it using Nearpod!

8-12 | INT | 448 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 29 | BT
Co-presenter: Rogelio Ordonez — Math Teacher, Pioneer Valley HS

Sisomore, Cassie — Mathematics Coach, Visalia USD

Secondary Mathematics Vertical Articulation Processes
Do teachers look to you for guidance on which standards, topics or depth they should be teaching? How much would your teachers benefit from learning how to work collaboratively to make these decisions as a team? In this session, we will explore ways to develop teacher teams’ abilities to interpret and vertically articulate the CCSSM. We will share methods on how to support teacher teams in the development of a common understanding of the vertical articulation of secondary mathematics.

8-12 | INT | 417 | Saturday, 1:30 - 3:00 | Asilomar, Nautilus West
Co-presenter: Laurie Duerksen — Mathematics Coach, Visalia USD

Sola, Tracy — Assist. Director, Silicon Valley Mathematics Initiative

The Long and Short of It: Primary Non-Standard Measurement
Journey with students as they experience and reason about non-standard measurement through participation in activities and debrief discussions to solidify their understanding. Learn about the foundations of primary measurement. Video cases and student work bring this presentation to life. Engage in discussions about the activities, videos, and student work to address best practices and insights into students learning. Receive a Non-Standard Measurement unit of study to bring back to your own practice.

GI | INT | 404 | Saturday, 1:30 - 3:00 | Asilomar, Oak Shelter | BT
Co-presenter: Laurie Duerksen — Mathematics Coach, Visalia USD

Stadel, Andrew — Instructional Coach, Tustin USD

Bring More Students Into Math Conversations and Sense-Making
Do you wish more students were able to join mathematical conversations? Do you wish more students could make better sense of mathematical tasks? Come engage in secondary math tasks in which students of all math abilities can join conversations and make sense of the math. I will share three lesson design principles and classroom routines that have been classroom-tested and can be implemented immediately with students from Math 6 to Calculus.

GI | INT | 418 | Saturday, 1:30 - 3:00 | Asilomar, Merrill Hall | BT
Co-presenter: Kawthar Duncan — Content Specialist, San Francisco USD

Stern, Michael — Teacher, Bayside/MLK Academy

Fraction Action: Modeling the Operations: +, -, x, /
Struggling to comprehend the complexities of fractions is an educational birthright. In this interactive session, participants will engage in three hands-on activities, which employ scratch paper, graph paper, rulers and scissors; they will fold, cut and measure, providing tangible and visual ways of seeing fractions in action. Students gain a deeper understanding of computational procedures involving fractions. These lessons offer access and equity to students who struggle with fractions.

3-5 | INT | 409 | Saturday, 1:30 - 3:00 | Asilomar, Marlin | BT
Co-presenter: Mary Ann Terrell — Teacher, Wardlaw ES

Sustaita Clark, Priscilla — Instructional Coach

Student Vision: Empower with Numberless Math Stories
Use math during Designated ELD? See how it CAN be done for language learners. Using student visualization to begin the process of sentence unpacking (from the ELD Framework), to scaffold the technique of analyzing language for primary students. Numberless Math stories are the perfect vehicle to empower them to understand how to construct and deconstruct the language of mathematics.

PK-5 | INT | 309 | Saturday, 11:00 - 12:00 | Asilomar, Marlin | BT
Co-presenter: Sarah Crocker — Instructional Coach

Szoke, Noam — Math Content Specialist, San Francisco USD

MathRoom Management: Norms Build a Safe, Powerful Math Class
How can all students, including students from high-trauma backgrounds, engage in powerful mathematics? What role does classroom community play in this? In this session, we will explore how and why we use norms to set up our math community. We will look at how norms are introduced and built into the classroom fabric and routines. When the classroom is a safe and supportive place, all students can take the risks necessary to develop their math identity as mathematicians.

PK-5 | INT | 440 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 13 | BT
Co-presenter: Kawthar Duncan — Content Specialist, San Francisco USD

Tackett, Heather — CPM Teacher Leader, Selma USD

Using Multiple Representations: Make Connections in Algebra
Learning to use multiple representations helps students build a deeper understanding of algebra. This session will focus on linear and quadratic functions while building connections between table, equation, pattern and rule. We will begin with silent board game, and continue with strategies to build student discourse. Strategies include: jigsaw, swapmeet and whirlaround. Teachers will receive materials they can use in their Algebra or Integrated Math 1/2 classes. SMP 1, 2, 3, 4, 6 and 7.

8-12 | INT | 441 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 21Lab | BT
Co-presenter: Kawthar Duncan — Content Specialist, San Francisco USD

Taylor, Megan W. — CEO/Founder, Trellis Education

What Will it Take to (re-)humanize Mathematics?
Aligned with the Mayan precept of In Lak’Ech, rehumanizing is about all of us. So the fact that the experience of teaching and learning mathematics is dehumanizing for so many students and teachers is a shared and critical issue. What does it mean to rehumanize it? We’ll explore some of the recent thinking of Dr. Rochelle Gutierrez, Dr. Jeff Duncan-Andrade, and others about the “slow violence” of dehumanization, what that really means for our day to day teaching, and what we can do about it.

GI | PRS | 253 | Saturday, 9:30 - 10:30 | Pacific Grove MS, Auditorium | BT

Tuska, Agnes — Professor, CSU Fresno

“Make or Break” Issues When Students Work on Math Problems
How do students interpret mathematical tasks and problems? What habits of mind distinguish effective problem solvers from their counterparts? How can we develop characteristics in students that benefit from learning how to work collaboratively to make these decisions as a team? In this session, we will explore ways to develop teacher teams’ abilities to interpret and vertically articulate the CCSSM. We will share methods on how to support teacher teams in the development of a common understanding of the vertical articulation of secondary mathematics.

8-12 | INT | 441 | Saturday, 1:30 - 3:00 | Pacific Grove MS, Rm 21Lab | BT
Co-presenter: Kawthar Duncan — Content Specialist, San Francisco USD
Ulrich, Casey — Math Teacher, San Francisco International HS
Re-envisioning Group Roles to Promote Conversation, Equity
Stymied by how to get your students to use group roles while promoting conversation and participation? So were we, until we made a few small but strategic changes. Join us as we explore some of the strategies that helped us figure out how to effectively use and adapt group roles to more consistently encourage student talk while moving group tasks forward. We adapted group roles for a high school of emerging multilinguals (English Language Learners), but our learnings are applicable at all levels.

Co-presenter: Nicholas Chan — Math Teacher, San Francisco International HS

Velasquez, Kim — Math Teacher, Albany USD
An Ethnomathematics Lens on Social Justice Maths Practice
Participants will have an opportunity to see how one teacher from a Social Justice Maths Community of Practice was inspired and supported to take EthnoMathematics to their classroom. Participants will have time to collaboratively create one or more SJ math lessons for their own classroom, based on their own classroom grade level, and walk away with their own plan as well as access to those of the entire group. Bring our own device.

Co-presenter: Celine Liu — Program Manager, Mathematics, Alameda COE

Vierra, Vicki — Math Coordinator, Ventura COE
Think and Speak Like a Mathematician
Avoid the unreasonable answers of “number pluckers.” Think like a mathematician before jumping to calculations - “Contemplate, then Calculate.” Represent and explain your thinking, as you “Decide and Defend.” Learn to use instructional routines that support ALL students to reason mathematically.

Co-presenter: Jim Short — Math Coordinator, Ventura COE

Villeneuve, Julie — Math Program Specialist, Elk Grove USD
Yakity-Yak! Please Talk Back!
Learn how engaging students in conversations builds mathematical thinking and a deeper understanding of mathematics. This workshop will focus on practical strategies and activities, which empower English Learners, students with special needs, and under-served math students to become an integral part of the math conversation. Through active engagement in this workshop, participants will leave with several strategies they can implement in their classrooms on Monday to get ALL students talking.

Co-presenter: Kumi Cadeaux — Math Coach, Elk Grove USD

Wallace, Matt — Lecturer and Supervisor, UC Davis
Real Learning versus Apparent Learning
Math teachers strive to help their students understand math. But what does it mean to understand? In this session, we will explore the difference between when students really know something as opposed to when they give the appearance of knowing – students’ real learning as opposed to their apparent learning. Practical teaching and assessment practices, as well as short vignettes will be shared. Come prepared to learn how to plan, teach, and assess for real learning!

Co-presenter: Kami Cadeaux — Math Coach, Elk Grove USD

Walton, Yuka — Math Instructional Coach, San Francisco USD
Building Powerful Learning Communities to Support Equity
Working towards equity requires deep collaboration so that the Adult Learning Community becomes the unit of change. San Francisco has developed a reflective tool that lays out essential domains for powerful collaboration, centered on strengths and an equitable vision of teaching and learning. See examples of how teachers have used this tool to support their department. Join us in a conversation of reflecting and building upon the work of learning communities.

Co-presenter: Ho Nguyen — Math Prog. Administrator, San Francisco USD

Weker, Ethan — Math Instructor, Mid-Peninsula HS
Rethinking Homework’s Role in Math Class
Students often spend hours each day on homework, but are they spending their time effectively and efficiently? We will explore different research-based homework plans that help students increase the effectiveness of their practice outside class, and reduce their overall stress. Come away from this session with immediate changes to your homework policies and lasting changes to the role of homework in your classes.

Co-presenter: Celine Liu — Program Manager, Mathematicx, Alameda COE

Winicki Landman, Greisy — Professor of Math, Cal Poly Pomona
Visual Reasoning as a Way of Mathematical Thinking
One of the focuses of the course Mathematical Reasoning with Connections – is to highlight the links among several mathematical ideas and techniques. Explore visual reasoning as a way to encourage students to develop robust understandings and to approach mathematics with greater flexibility. Explore grouping and discussion strategies to implement this high school curriculum that emphasizes active learning.

Co-presenter: Celine Liu — Program Manager, Mathematicx, Alameda COE

Zaragoza, Diana — Prof. Early Childhood Education, Sacramento City College
Problem Solving + Talk = Student Voice + Discourse Celebrate Math
Providing equitable access to high quality mathematical experiences is a key component to student success. Effective educators utilize low floor/high ceiling problems to engage all students in mathematical conversations and diverse learning experiences. Come join us in this hands-on, activity based session that encourages everyone to participate in tasks/games that stimulate critical thinking and ignite mathematical discourse. You will leave with ideas and materials ready to use right away.

Co-presenter: Celine Liu — Program Manager, Mathematicx, Alameda COE
**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.
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**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 32 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.**

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**Name badges**

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

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- 254 Educational Program
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- 268 TEAM UP! Curriculum That Matters, Inc
- 269 Melon Rind
- 270 Center For Math Teaching
- 271 CPM
- 264 MOEMS
- 261 Carney Sandoe Assoc

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, 2019.

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**2018 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 4,700 teachers have been recognized for their contributions in the classroom and to their profession. This year the state panel has selected three K-6 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:

**Mrs. Megan Smith**

Megan is a teacher at Lincoln Fundamental Elementary School in the Corona Norco Unified School District. She has been teaching for eleven years. She currently teaches fifth grade at a public magnet school. She has served as a district professional development co-presenter and allows other teachers to come to observe her classroom. She has been video taped many times and serves as an exemplar for district professional development. She also produces powerpoints of instructional materials for the district math resource site.

**Mrs. Robyn Stankiewicz-Van Der Zanden**

Robyn teaches at the La Verne Science and Technology Charter in the Pomona Unified School District. She has been teaching nineteen years. She currently teaches kindergarten at a district dependent charter school that has a focus on science and technology. She is co-authoring a book chapter on the cycle of Mathematical Modeling in the Kindergarten Classroom. She recently presented at NCTM’s INNOV8 Conference in Las Vegas, Nevada, and has worked with the Cotsen Foundation for the Art of Teaching.

**Mrs. Stacy Zagurski**

Stacy is a teacher at Merlinda Elementary School in West Covina Unified School District. She has been teaching 36 years. She currently teaches kindergarten, but has taught K-5 grades. She has presented at math conferences throughout the state as well as the Southern California Kindergarten Conference. She co-authored an article titled “Flipping the Hundreds Chart” for the CMC journal, The Communicator. She has demonstrated that she is a life-long learner and continues to pursue math professional development.

If you know a great math teacher, go to the PAEMST portal to nominate a 7-12 teacher of mathematics for the 2019 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, 2019 and the application must be completed by May 1, 2019.

For more information about awards, or to nominate, visit Presidential Awards atcmc-math.org/paemst-awards
Certificate of Attendance

is hereby granted to

Rita Nutsch
Rita Nutsch, CMC-N President

in recognition of attendance and participation at the

CMC-N Mathematics Conference at Asilomar
Pacific Grove, CA | November 30 - December 2, 2018

Call for Speakers

CMC-North 62nd Annual Conference
Asilomar and Pacific Grove Middle School, Pacific Grove

Embracing Cultural Diversity in Mathematics
December 6-8, 2019

Proposals will be accepted online at www.cmc-math.org/activities/north_speakers.html from January 30 to May 1, 2019. 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: Monica Rock 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.

Stay connected with CMC

www.facebook.com/CAMathCouncil
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2018-20 State Northern Section

President .................................................... Cathy Carroll
Past President ........................................ Vicki Vierra
President-Elect ........................................ Christine Roberts
Secretary .............................................. April Goodman-Orcutt
Treasurer ............................................. Bruce Grip

North

President .................................................... Rita Nutsch
Past-President ...................................... Rebecca Lewis
President-Elect ........................................ Sarah Ives
Vice President ........................................ Monica Rock
Secretary ............................................. Alison Nash
Treasurer ............................................. Brian Lim

March 8-9, 2019
CMC Central Mathematics Symposium

April 1-3, 2019
NCSM Annual Conference, San Diego, CA

April 3-6, 2019
NCTM Annual Conference and Exposition, San Diego, CA

November 15-16, 2019
CMC South Mathematics Conference, Palm Springs, CA

December 6-7, 2019
CMC North Mathematics Conference at Asilomar, Pacific Grove, CA

For information and links to these math events go to: www.cmc-math.org

Sacramento Area Math Educators (SAME)
Brian Lim, lim128@yahoo.com

Monterey Bay Math Council (MBMC)
Denise Green, abbadat09@gmail.com
James Schierer, jschierer@smcjuhsd.org

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

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

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

In July, CMC-North lost a friend and colleague. Those who had the privilege of working with her, knew that she was a quiet force who preferred to stay behind the scenes both in CMC and in the world of assessment.

Jean was born in Davis, California on August 25, 1922. She began her education in a one-room school in Monticello, in the Berryessa Valley. At age 10, her family moved to Modesto. Being an avid reader, she was far ahead academically, so the school skipped her ahead two grades. She remained in school in Modesto, graduating from Modesto High and Modesto Junior College before attending U.C. Berkeley, where she majored in economics. She graduated with honors from Cal in 1942 at the age of 19.

After graduation she went to work as a clerk at the Naval Supply Center in Oakland. As part of her work, she was sent to the east coast, where she was trained to take apart and reassemble airplane engines. When the war ended, she resigned from her job with the Navy and took accounting courses at Golden Gate University. Over the next eight years she worked as an accountant for several companies in San Francisco.

As a young adult, Jean became an avid skier. She joined the Viking Ski Club and became a member of the ski patrol and an avalanche ranger at Donner Pass. It was there she met her husband. She and her husband had three children, Ruthann, John, and Jane.

In 1967, Jean went back to school to earn a teaching credential. She taught in the Oakland Unified School District, first as a classroom teacher and later as a math resource teacher. During this time, she became passionate about improving math education in California.

In 1980, she joined the staff of the EQUALS program at Lawrence Hall of Science, where she led workshops and co-authored numerous publications including:

- Family Math
- Family Math for Young Children
- Math for Girls and Other Problem Solvers
- Assessment Alternatives in Mathematics: An Overview of Assessment Techniques That Promote Learning

Jean served as Vice President and President of CMC North and as President of the Alameda County Math Educators. She served as an advisor for The California Department of Education for both the CAP and CLAS assessment programs.

She also co-authored two books for NCTM:

- Mathematics Assessment: Myths, Models, Good Questions and Practical Suggestions
- Mathematics Assessment: A Practical Handbook for Grades 3-5

In 1992, she was presented with the Edward Begle Memorial Award by CMC for her accomplishments as a math educator. Her dedication to making math meaningful and accessible to all students was an inspiration to all those who knew her.

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!
The 61st Annual CMC - North Conference Committee wishes to thank all of the speakers for contributing to an amazing conference for all math educators.

THANK YOU
SPECIFICS:
Course Title: California Mathematics Council North Annual Conference
Course Code: 18F EDU 870B 01
CEUs: 1.5
Course Fee: $65
Date: 11/30/18 - 12/2/18

- 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 2019. Please do NOT call before that time. After February 1, 2019 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, 2018.

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, 2018 to:
CMC, Attn: Brian Lim
PO Box 234
Kentfield, CA 94914

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.
On Friday, bus service will run between the Asilomar grounds and Pacific Grove Middle School from 4:00-9:30 p.m. Busses will run between Asilomar and Pacific Grove Middle School and 7:15 a.m. - 6:00 p.m. on Saturday.

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.

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 bit.ly/19SpkrEval.