#### Puget Sound Council of Teachers of Mathematics

September 19, 2020









Saraswati Noel I've learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel. - Maya Angelou

# **September 19, 2020**

#### **WELCOME BACK!**

Editor: Joyce Frost (frostjoycee@gmail.com)

PSCTM Fall Zoom Presentation! Monday, October 19<sup>th</sup> 5–6:30pm

<u>Unpacking Assumptions and Defining</u> <u>your Principles in Equity Oriented</u> <u>Mathematics Teaching</u>

Saraswati Noel and Starlie Chinen, UW College of Education doctoral students

REGISTER: https://tinyurl.com/PSCTM-Fall-2020-Dinner



Follow PSCTM on social media! Share your lesson ideas, news with us, too! @PSCTM

President's Letter - Traci Cotton

Welcome back to a new school year! As we begin the 2020-2021 academic year, what's one word that describes the work of teachers? The word that comes to my mind when considering the work of teachers right now...perseverance. Perseverance: continued effort to do or achieve something despite difficulties, failure, or opposition. (Merriam-Webster)

I am in awe of educators as we enter this year with so many challenges, yet we continue to persevere through it all because we want what's best for our students. Educators are learning new ways to better serve their students whether online, in person, or in a hybrid model.

PSCTM strives to support you as you continue to grow

and persevere in your efforts this year and beyond. We hope you will join us for our upcoming events and stay connected with us on Facebook and Twitter. Wishing you the best, Traci Cotton, PSCTM President



Jane Bissonnette - Past President & Secretary, Joyce Frost - Program & Newsletter, Jane Hunter - Newsletter, Art Mabbott -Treasurer/ NCTM Rep, Joe Frost - Web Page, Laura Beckett, Maryke Haynes - Equity, Angela Ensminger - Social Media, Carl Cotton, Presentation Support



# **PSCTM October 19, 2020 Presentation Unpacking Assumptions and Defining your Principles in Equity Oriented Mathematics Teaching** – *Saraswati Noel & Starlie Chinen*

#### **Description of Session:**

Equity work in any field is principled work. That is, when one does work that is committed to equity, they are guided by a certain set of principles. One principle that guides our work is normalizing discomfort and sitting with tension and uncertainty. Also, we believe it is crucial to explicitly state our commitments and name how they guide our work in unpacking and disrupting injustices in our classrooms. In this session, you will begin by challenging and reframing common assumptions about mathematics. Next, we will begin to explicitly outline our commitments to equity in mathematics education, positioning this as an on-going process. We will interrogate who those commitments serve and map these commitments onto practices at the institutional, cultural, and individual levels.

#### **Bios**:

Starlie Chinen and Saraswati Noel are doctoral students in mathematics education at the University of Washington. Prior to this work, Starlie was a high school math teacher in Los Angeles and a Middle School environmental sustainability educator in Honolulu. Saraswati worked as a middle/high school math teacher at Seattle World School. Starlie's work now centers around how to support the development of a teaching force committed to equity through work with middle school math classrooms and teacher education programs. Saraswati's work is focused on experiences of recent refugees in secondary math classrooms.

# **Bending the Arc:**

# An intimate discussion with accomplished Black mathematicians

# Wednesday, September 23 at 6:30 pm ET (New York)

#### "The arc of the moral universe is long, but it bends toward justice."- Martin Luther King, Jr.

The National Museum of Mathematics (MoMath) is deeply committed to encouraging young people of all backgrounds to engage with mathematics and to consider careers in STEM fields. As part of this commitment, MoMath is launching a new virtual program aimed at demystifying mathematics for Black youth. The program will consist of an online panel discussion followed by more intimate breakout room conversations that will give participants the opportunity to interact with leading Black mathematicians and scientists and to explore how these accomplished individuals have used math in their careers.

# The program will be hosted by former NFL (Baltimore Ravens) professional, current MIT Math PhD candidate, and MoMath Trustee John Urschel. <u>Register</u>

Registration is free, although MoMath is a 501c(3) charitable corporation and they accept donations.

Bill Gates, Sr (11/30/25 – 9/14/20) "Dad lived a long and enormously meaningful life. I never stopped learning from his wisdom, kindness, and humility. Although he would be the last person to say it, my father's compassion and generosity will live on in the foundation he helped build. As I've said many times before, my dad was the real Bill Gates. He was all the things I strive to be." Bill Gates, Jr.

"What particularly distinguished Bill Gates, Sr., according to many who knew and love him, was his integrity and generosity." - - - Seattle Times editorial board

# How Big is the West Coast Forest Fire Burn Area?

When I hear statistics on the news, I often try to put the numbers into a form that I can grasp. For example, hearing last week that the wildfires in the western coastal states have burned about 2.3 million acres so far this year is impressive, but I can't visualize how big an area that is. I know that an acre is 43,560 square feet so the burn area is roughly 10.5 billion square feet, but that is again a number that I can't relate to a concrete sight.

I tried calculating how long it would take to see that much area driving. The federal standards for the typical freeway are 50 feet of cleared space on each side, a 50-foot median, four 12-foot lanes, two 12-foot outer shoulders and two 4-foot inner shoulders. Thus, the standard footprint of a freeway in a rural area is 50+50+50+48+24+8=230 feet. The area of the burn is equivalent to 8650 miles of freeway. That is roughly from Seattle to Miami and back. This is still too big for me to visualize.

Whoops, when driving, you actually see more than just the freeway. In fact, on a smooth earth the distance you can see is given roughly by d = 1.22 x sqrt(h) where d is the distance you can see in miles and h is the height above the surface in feet. In my car I'm roughly 4 feet up, so I could see a swath roughly 2.5 miles wide on either side. There are 640 acres in a square mile, so 2.3 million acres is just under 3600 square miles. My drive to see 3600 square miles on a smooth Earth with a 5-mile wide swath would be in the ballpark of 720 miles, or about the distance from Seattle to Sacramento. I can imagine that, but, realistically, you actually see more than that from the road, because this end of the country has hills and mountains.

Another way to look at the 3600 square miles is a 60 by 60 mile square or a circle with a radius of just under 34 miles. The Space Needle is at 135 feet above sea level and the observation deck is at 520 feet above that, so, using the horizon distance formula above, the horizon is about 31 miles away. If the earth was smooth around the Space Needle, you would be able to see about 3060 square miles from the observation deck. Given how rough our calculations are, that is pretty close to the size of the burn area.

Now, I can visualize how large the burn area is. Imagine looking out from the observation level of the Space Needle and the entire area that you can see around you has been burned. That is truly spooky.

For another highway example, we live in a bowl between the Olympics and Cascades roughly 80 miles across. A rectangle 80 miles wide by 45 miles long would be 3600 square miles, so the burn area is nearly the size of everything you could see on a clear day driving from Lynnwood to Tacoma excluding Mt. Rainier.

**Update** (a week later): California alone now has a 2020 burn area of over 3.3 million acres. Adding in Washington and Oregon, the total is 4.8 million acres. How does this new total affect your calculations? **Update 2:** The fires so far in Washington have burned an area 3 times the size of Mt. Rainier National Park. --- *Joe Frost* 



#### Math Fun (<u>Math Trick #10</u> from: relativelyinteresting.com By Jane Bissonnette

Here's a fun exercise! Have your algebra students explain (using algebra) why these rules work.

#### Multiplication rules...

Multiply by 5: Multiply by 10 and divide by 2 **Multiply by 6:** Multiplying by 3 and then 2 is easy Multiply by 9: Multiply by 10 and subtract the original number Multiply by 12: Multiply by 10 and add twice the original number Multiply by 13: Multiply by 3 and add 10 times original number Multiply by 14: Multiply by 7 and then multiply by 2 Multiply by 15: Multiply by 10 and add 5 times the original number Multiply by 16: You can double four times or multiply by 8 and then by 2 Multiply by 17: Multiply by 7 and add 10 times original number Multiply by 18: Multiply by 20 and subtract twice the original number Multiply by 19: Multiply by 20 and subtract the original number Multiply by 24: Multiply by 8 and then multiply by 3 Multiply by 27: Multiply by 30 and subtract 3 times the original number Multiply by 45: Multiply by 50 and subtract 5 times the original number Multiply by 90: Multiply by 9 and put a zero on the right Multiply by 98: Multiply by 100 and subtract twice the original number Multiply by 99: Multiply by 100 and subtract the original number

30 days hath September, April, June And November, all the rest have 31, except 2020 which has 5328





#### Distance Learning - How to engage my students when I'm not there?

Like many of you, many of my teaching friends and I spent the summer frantically taking online courses trying to figure out the question on everyone's mind; "How are we going to engage our students and actually teach them something if we are not sitting right next to them?" School hit with a force and one of the solutions snuck up on me as a hidden surprise - using **Desmos** labs! I had seen the potential at past conferences and had put it in my back pocket as...something cool that when I have time, I will figure out. Well, I ran out of time and so had to *google* how to make it work. Wow, was it worth it!

I soon realized that there were actually 3 different sites – the calculator for everyone – *Desmos.com*, for teachers- *Desmos.teacher.com* and for students- *student.desmos.com*. I created a teacher account on *Desmos.teacher.com* and started by assigning a single class for my students to start with. A link pops up which I posted as an assignment on my Schoology page. The kids had a choice to log in with Desmos or just continue without logging in. I did not know any better, so most of my students just logged on as a one-time activity. If they do not finish, it may erase their work the next day. Regardless, we had a blast! I started with the Desmos Marbles activity in a live zoom session. It even showed me the progress of my students. On day 2 we went back and shared student solutions.



I realized later that you can actually start up your own classes and invite kids to do an activity. Then, it will sign them up when they click on the activity – perfect for my Algebra class! A link pops up that brings them to the page. After that, it always recognizes them as being in my class.

Sure enough, many younger teachers were way ahead and were creating lessons for kids individually. I personalized one of theirs and found out that it wasn't as hard as I thought. What Desmos does for online learning, is that it sets up a question, allows them to ponder and then experiment with an idea. If you are live with the kids, it allows you to easily share what other students are doing in real time. If not, you can still share other's solutions the next day.

A teacher in my district, Mandeep Kaur, created a lab on her own with our CPM Geometry. She attached videos that the students could watch when they logged on to that page. Thank goodness she shared it with us! Will I use this every day? No... but I will use it coupled with live Zoom, Loom videos of lessons, Google Docs and Khan Academy. Desmos seems to be the fun one that students engaged with the easiest. I am excited to explore more with this wealth of resources. Who knows, ...I may even create a few of my own Desmos labs! - - - Jane Hunter

#### BIG CITY

# Schools Beat Earlier Plagues With Outdoor Classes. We Should, Too.

A century ago, children in New York City attended classes during a pandemic. It seemed to work.

#### Schools Beat Earlier Plagues With Outdoor Classes. We Should, Too.

#### By Ginia Bellafante – New York Times

"In the early years of the 20th century, tuberculosis ravaged American cities, taking a particular and often fatal toll on the poor and the young. In 1907, two Rhode Island doctors, Mary Packard and Ellen Stone, had an idea for mitigating transmission among children. Following education trends in Germany, <u>they proposed</u> <u>the creation of an open-air schoolroom</u>." (Click on the link to the left to read this September 2016 article.)

"The subsequent New England winter was especially unforgiving, but children stayed warm in wearable blankets known as "Eskimo sitting bags" and with heated soap stones placed at their feet. The experiment was a success by nearly every measure — none of the children got sick. Within two years there were 65 open-air schools around the country either set up along the lines of the Providence model or simply held outside. In New York, the private school Horace Mann conducted classes on the roof; another school in the city took shape on an abandoned ferry."

We know that the risk of contracting Covid – 19 diminishes outside.\* Perhaps we might consider outdoor classrooms once again?

(\*A review of 7000 cases in China recorded only one instance of a fresh-air transmission).

It may take a village to raise a child, but I swear it's going to take a whole vinevard to home school one...

So, what you're telling me is that my chance of surviving all this is directly linked to the common sense of others? You're kidding, right?

#### **PSCTM Membership Awards : Fall 2020**

Do you know someone who would be interested in a complimentary year membership to PSCTM?

In honor of two great mathematics educators, Diane Lustyk and Reg Waddoups, the PSCTM is offering two scholarships for membership which will include paid admission to virtual and in person events held during the 2020-2021 academic year. One membership will be awarded to an educator working with elementary students, and another will be awarded to an educator working with secondary students.

**Diane Lustyk** was a teacher in Bellevue and Everett Public Schools. Diane served as an elementary math specialist in Everett Public Schools for over 25 years. She was a very active member of PSCTM and served as the Snohomish County Representative on the executive board. Diane loved sharing math with her students! She was happy to encourage other teachers to join PSCTM and attend math events including the Northwest Mathematics Conference. Her efforts to create a love for math touched many students and staff alike.

**Reg Waddoups** was a teacher in Seattle Public Schools and Lake Washington School District for many years. In both districts, he started and ran the Math Olympiad program, writing questions and managing the events. He was a regular presenter at the Northwest Mathematics Conference sharing amazingly creative math projects, puzzles, games and more. He was well loved by all who knew him!

To nominate yourself, or a colleague, send an email to psctm.org@gmail.com

Please include the following information:

- Nominee name
- Grade level the nominee teaches
- A brief explanation, using a few sentences, why the nominee should be awarded the PSCTM membership scholarship
- The name of the person suggesting the nomination (unless this is a self-nomination)
- Phone number and email address for the nominee

The PSCTM Membership Award deadline is October 10, 2020 (Metric Day). Award recipients will be announced at the Fall PSCTM event on October 19<sup>th</sup> and on our Facebook and Twitter accounts.



The youcubed team has designed a new pedagogical routine they think all K-16 teachers will love! It draws from the idea of 'number talks" and helps students develop something really important for the modern world – data literacy. The routine is called a "Data Talk" and, like "number talks" they take 5 - 10 minutes of class time.

Find out more and get a Pdf here.

Here are five lessons for grades 6 - 10 that introduce students and teachers to Data Science.

One of the best sites for sources of data talks is The New York Times <u>"What's Going On in This Graph?</u>

Share with the youcubed team on twitter <u>@joboaler</u> and <u>@youcubed</u>, Instagram, Facebook, and other places. Viva la Revolution! Jo and the youcubed team Puget Sound Council Teachers of Mathematics Calendar of Events 2020-2021



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Date	Meeting Type
September 21	PSCTM Board Meeting
	l com Board mooting
October 19	Fall Dinner Event
December 14	PSCTM Board Meeting
	(holiday gathering)
January 25	PSCTM Board Meeting
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February 8	Winter Dinner Event
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March 15	PSCTM Board Meeting
April 19	PSCTM Board Meeting
May 17	Spring Dippor Event
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June 7	PSCTM Board Meeting
	(end of year celebration)
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# Welcome to Classroom Europe!

Rick Steves Classroom Europe is a free resource allowing teachers to share the best of European art, history, and culture with students and fellow educators. You will find over 420 short video clips. Rick says, "As a student and a parent, I am forever thankful for the dedicated teachers that have been huge figures in my life. I appreciate the challenges educators have, especially these days, and the passion they have for inspiring their students to learn. This project is a joy for me to offer and a small way of saying thank you. I hope this program can be of use to you in the classroom. We designed it to be simple and intuitive. We wish you all the best in your teaching...and happy travels. <u>Check out the How-To Video & overview.</u>

# Ruth Bader Ginsberg (3/15/33 – 9/18/2020)

"I would like to be remembered as someone who used whatever talent she had to do her work to the very best of her ability."

Real change, enduring change, happens one step at a time."



*"Women belong in all places where decisions are being made. It shouldn't be that women are the exception."* 

"So often in life, things that you regard as an impediment turn out to be great, good fortune."

"People ask me sometimes...'When will there be enough women on the court?' And my answer is: 'When there are nine.' People are shocked. But there'd been nine men, and nobody's ever raised a question about that."

*"My mother told me to be a lady. And for her, that meant be your own person, be independent."* 

"You can't have it all, all at once." *"Fight for the things that you care about; but do it in a way that will lead others to join you."* 

*"Justices continue to think and can change. I am ever hopeful that if the court has a blind spot today, its eyes will be open tomorrow."* 

*"Women will have achieved true equality when men share with them the responsibility of bringing up the next generation."* 

"Reacting in anger or annoyance will not advance one's ability to persuade."

"Don't be distracted by emotions like anger, envy, resentment. These just zap energy and waste time."

"If you have a caring life partner, you help the other person when that person needs it. I had a life partner who thought my work was as important as his, and I think that made all the difference for me." News from Western Washington University Professor, Millie Johnson, about the <u>2021 Great Puzzle Hunt</u>!

#### We Are Excited to Announce (Due to COVID-19 and Our Priority on Safety and Health):

- The FIFTH Annual WWU Great Puzzle Hunt will be held VIRTUALLY
- On Saturday, April 17, 2021, 9:30 am 4:30 pm
- Registration will open in January
- The event will be FREE and open to all
- Prizes for winning teams and best team names
- Information will be updated this fall on <u>GreatPuzzleHunt.com</u>

## **Stay Healthy!**

# WHAT IS THE PUZZLE HUNT?

The Great Puzzle Hunt is like a scavenger hunt adventure with puzzles. Teams of up to 6 people travel on foot to various locations solving a total of four hour-long puzzles gathering clues along the way to solve one final meta puzzle.

These are no ordinary puzzles though! It will take a diverse set of skills and talents to solve them! Our mission is to celebrate everyone's talents and demonstrate knowledge comes in many forms. Everything is timed using your phone, QR codes, and this online system! So yes you can win :)

# WHO?

Everyone! However, each person under age 14 on a team must be accompanied by a parent/legal guardian at all times parent/legal guardian must be registered on team with child under age 14. \*Note: The puzzles are created for ages 14 and older.

# WHERE?

Red Square Western Washington University 516 High Street Bellingham, WA 98225

## WHAT?

Scavenger hunting, puzzle solving, brain adventuring!

#### WHY?

Stretch your mental muscles, bond with your teammates, compete alongside people of all ages and walks of life, and have a lot of fun!

# WHEN?

Saturday, April 17, 2021 from 9:30 AM - 5 PM Awards and Prizes\* at 4:30 PM

\*Must be present at awards ceremony to claim prizes, else prizes go to the next place team.

### University of Washington College of Education

While the COVID-19 pandemic has presented numerous challenges to school districts across the nation, a new policy brief from **University of Washington College of Education researchers** outlines how district leaders are reshaping policies and practices to advance racial equity.

<u>"Promising District Leadership Practices for Transformative Change in the Context of COVID-19,"</u> focuses on the leadership practices of districts in Washington's Puget Sound region to provide models and resources anchored in high-quality instruction toward the goal of dismantling white supremacy.

# **RECOMMENDATIONS**

Based on our findings about promising practices that districts are already implementing and the opportunities for transformative change, we suggest that district leadership take the following steps:

- 1. 1) *Focus on "building on" not "learning loss".* Value learning that happens at home and in communities, systemically seek out family needs and desires, and provide resources to build on the agency, power, and strength of children, families, and communities. District leaders noted that distance learning prompted many teachers, for the first time, to engage in prolonged and frequent conversations with parents about the learning children did at home. Close communication helped teachers cultivate asset-based lenses and develop more complete and nuanced understandings of their students. Rather than relying on standardized tests to identify what children "lost" during the time away from school and try to "fill the gaps", this is an opportunity to design systems to understand and build on what children learned (and continue to learn) at home.
- 2. 2) *Prioritize relationships.* Authentic relationships between students, teachers, leaders, and families will be more important than ever to support learning in the midst of the uncertainty and trauma caused by the COVID-19 pandemic and recent racial reckoning. Educators should not lose sight of the importance of belonging to a learning community in their urgency to accelerate learning. Instead, elevate conversations about community-building and fostering relationships with families and students in fall planning. Social-emotional learning should be an integrated part of instruction across grade-levels and content-areas whether in hybrid, in- person, or online settings.
- 3. 3) *Create anti-racist, systemic coherence.* Center the voices and experiences of Black, Indigenous, and People of Color to design instructional policies and practices by establishing and using equity-focused processes and tools. Several districts have existing equity-focused tools to guide decision-making processes. However, when in crisis-mode, it's easy to prioritize efficiency rather than explicitly focusing on the voices and experiences of students and families furthest from educational justice. We encourage districts that do not have an explicit anti-racist policy, tool and/or process to adopt one (see Seattle, Edmonds, and Highline for examples), and every district leader to transparently communicate with district staff and the broader public about how these tools shape decisions and policy/practice design.

