Puget Sound Council of Teachers of Mathematics

September 24, 2018



Puget Soundings



Lynn Adsit, Fall Dinner - Exploring the book, "Make It Stick". Monday, Oct 15, 2018

September 24, 2018

Calendar

PSCTM Fall Dinner	<u>October 15, 2018</u> Bishop Blanchet HS	
PSCTM Winter Dinner	<u>February 11, 2019</u> Bishop Blanchet HS	
PSCTM Spring Dinner	<u>May 20, 2019</u> Bishop Blanchet HS	
6	President - Jane Bissonnette President- alast/Social	

lect/Social Media - Traci Cotton

Joyce Frost- Program/ Newsletter, Sharon Young- Secretary, Art Mabbott- Treasurer/ NCTM Rep, Joe Frost- Web Page, Kim Schjelderup, Saraswati Noel, Angela Ensminger- Representatives, Lynn Adsit- Membership.

Editor: Joyce Frost (frostjoycee@gmail.com) **President's Letter - Jane Bissonnette**

Welcome back to the new school year! I hope you had a rejuvenating summer. We have lots of great events to look forward to this year.

First of all, we have our quarterly dinners held on Monday nights at Bishop Blanchet High School. The first dinner is scheduled for October 15th. Our very own board member, Lynn Adsit, will lead us in a discussion based on the book. *Making It Stick – The Science of Successful Learning* by Peter C. Brown and Henry L. Roediger III. This should be a fun collaborative presentation for all grade levels. The other two meetings are scheduled for February 11, 2019 and May 20, 2019. Be sure to mark vour calendars.

The 57th Northwest Mathematics Conference is being hosted by British Columbia Association of Math Teachers in beautiful Whistler, BC, Canada. The dates are October 18-20. The link is: http://www.bcamt.ca/nw2018/

The National Council of Teachers of Mathematics (NCTM) is hosting a regional conference in Seattle on November 28-30, 2018 at the Washington State Convention Center. To learn more about this event go to: https://www.nctm.org/Seattle/. I know they are looking for volunteers. There is a link on that site for volunteers.

Looking into the future we are already working on the 58th Northwest Mathematics Conference to be hosted in Tacoma, Washington in 2019. We could really use some volunteers to help us put this event together. Please contact: Sharon Young (chair) at: syoung@spu.edu if you would to help.

Many good wishes for the coming school year and I hope to see you at some of these events.

- - - Jane Bissonnette, (jbissonnette@bishopblanchet.org)



PSCTM Newsletter

Make It Stick - "Many common study habits and practice routines turn out to be counterproductive. Underlining and highlighting, rereading, cramming, and single-minded repetition of new skills create the illusion of mastery, but gains fade quickly. More complex and durable learning come from self-testing, introducing certain difficulties in practice, waiting to re-study new material until a little forgetting has set in, and interleaving the practice of one skill or topic with another. Speaking most urgently to students, teachers, trainers, and athletes, 'Make It Stick' will appeal to all those interested in the challenge of lifelong learning and self-improvement.

PSCTM Fall Dinner September 15, 2018 <u>Making It Stick in the</u>

<u>Math Classroom</u> Lynn Adsit, Math Teacher, Mercer Island High School T3 Regional Coach

"Learning is deeper and more durable when it is effortful." We'll do a quick intro/review of the key strategies presented in the book, *Make It Stick -The Science of Successful Learning*, by Peter C. Brown and Henry L. Roediger III. These strategies are: Retrieval and Spaced Practice, Interleaving, Elaboration, Dual Coding, Concrete Examples, and Generation. Then, let's collaborate about how to leverage scientific research on learning in the math classroom to help our students learn deeply for retention.

Lynn Adsit is well known to PSCTM members as a long time PSCTM Board Member, Membership Chair, T3 regional instructor/T3 Int'l Conf Speaker for 11 years, and NWMC speaker for the 20+ years. She has taught in Lake Washington and Mercer Island SD.

Don't miss this informative and important presentation!



Peter C. Brown Henry L. Roediger III Mark A. McDaniel *Make It Stick:* "Drawing on recent discoveries in cognitive psychology and other disciplines, the authors offer concrete techniques for becoming more productive learners."

Breaking Math News!

FAMED MATHEMATICIAN SIR MICHAEL ATIYAH HAS ANNOUNCED THAT HE HAS A SIMPLE NEW PROOF FOR THE LONG-STANDING RIEMANN HYPOTHESIS

https://www.youtube.com/watch?v=BrbGhHm9zss

"<u>Sir Michael Atiyah</u>, announced that he has a proof of the Riemann Hypothesis (RH) and will present it in Heidelberg Monday, September 24, 2018. If it happens that the proof is correct we are talking about news of seismic scale that will be on the front page of every newspaper on the planet by Tuesday. The RH is at the moment the most important open problem in mathematics, one that has eluded the greatest minds in the field for the last 160 years."

Sir Michael Atiyah is 89 years old, a 1966 Fields Medalist, and 2004 Abel Prize winner.

https://ricardopachon.com/2018/09/22/atiyah-and-the-riemannhypothesis/

PSCTM Newsletter

Math Breather

Need a little breather during class? Here are some fun brain teasers that students will enjoy. **1.** Johnny's mother had three children. The first child was named April. The second child was named May. What was the third child's name? **2.** A clerk at a butcher shop

stands five feet ten inches tall and wears size 13 sneakers. What does he weigh?

3. Before Mt. Everest was discovered, what was the highest mountain in the world?
4. How much dirt is there in a hole that measures two feet by three feet by four feet?
5. What word in the English language is always spalled

language is always spelled incorrectly?

6. Billie was born on December 28th, yet her birthday always falls in the summer. How is this possible?

7. In British Columbia you cannot take a picture of a man with a wooden leg. Why not?8. If you were running a race

and you passed the person in 2nd place, what place would you be in now?

9. Which is correct to say, "The yolk of the egg is white" or "The yolk of the egg are white?"

10. A farmer has five haystacks in one field and four haystacks in another. How many haystacks would he have if he combined them all in one field?

Splat!

www.stevewyborney.com

Are you looking for an engaging mini lesson to kick start your math block? Try a SPLAT! A SPLAT is an easy to implement, high-yield, number

routine students of all ages will enjoy.

Even better...the lessons are free and neatly organized so you can find the perfect fit for you and your learners! Enjoy!

-Traci Cotton, PSCTM President Elect



Did you see that?

There was another neat post recently shared on the PSCTM Facebook page and Twitter feed! For lesson ideas, learning opportunities, and much more please follow us on Facebook and Twitter. Spread the word and invite your fellow educators to follow us too! -Traci Cotton





Math Breather Answers **1.** Johnny.

1. Johnny **2.** Meat

3. Mt. Everest. It just wasn't discovered yet.

4. There is no dirt in a hole.

5. Incorrectly (except when it is spelled incorrecktly).

6. Billie lives in the southern hemisphere.

7. You can't take a picture with a wooden leg. You need a camera (or iPad or cell phone) to take a picture.

8. You would be in 2nd place. You passed the person in second place, not first.

9. Neither. Egg yolks are yellow. **10.** One. If he combines all his haystacks, they all become one big stack.

Jane Bissonnette

You May Be a Math Nerd if... (Joyce & friends)

- Friends say, "Happy birthday wonderful math woman!" to wish you a Happy Birthday
- Your niece gives you "Pi" earrings for your birthday, just because
- Your friends all post math jokes and articles on your Facebook page
- You plan your family vacations around Northwest Mathematics Conferences
- You use Chinese cookies with math jokes for wedding favors (Carol Hattan)
- you are excited about getting your copy of a math book signed by the author at a conference (Beverly Farahani)
- you tell your students that you have met their text book author



lane Bissonnette

Save the Date and join in the planning!	SAVE THE DATE!
Save the Date and Join in the plaining . Save the Date and Join in the plaining . Save the Date and Join in the plaining . Save the Date and Join	58th Northwest Math Conference - October 10 -12, 2019 WE ALL COUNT - Tacoma Convention Center and Murano Hotel The conference committee wants to hear from you!! We would love suggestions.
 58th NW Mathematics Conference Topic Strands include Embracing a Diverse Population Success for the Under-served Student Innovative Teaching using the Mathematical Practices Going Beyond Equity Technology in the Classroom STEAM - Putting the Art in STEM Beaching the Adult Learner 	 What keynote speakers would you like to hear? What topics would you like to see on the program? What role would you like to help with on the planning committee? Would you like to be a speaker?
 Keys to Successful Coaching Building the Math Community - In the Classroom and Beyond Encouraging a Mathematical Growth Mindset Career and Technical Education What's Math Got to do with it? - Making Connections K thru 16 – Something for All! 	Sharon Young, 2019 NWMC Chair email: <u>syoung@spu.edu</u> phone: <u>425-785-3027</u>
Peg Cagle, NBCT PAEMST @pegcagle	Here is proof that your newsletter editor is a genuine math nerd! Thank

Only thing more thrilling than learning of a proposed proof of Riemann, is learning it is being proposed by the venerable Sir Michael Aniyah, still shaking up the world of mathematics more than 50 years after receiving the Fields Medal! twitter.com/hlforum/status... Here is proof that your newsletter editor is a genuine math nerd! Thank goodness for my math colleagues and sharing math news! Joyce Frost

September 24, 2018

PSCTM Newsletter



Dr. Gini Stimpson working with teachers in Kenya







"It was fabulous because the teachers showed that they were thinking about surfacing and listening to student thinking. They loved being listened to and I learned some new math. What could be better?" - Dr. Gini Stimpson



A friend posted on Joyce Frost's Facebook Page...



"If people do not believe that mathematics is simple, it is only because they do not realize how complicated life is." John von Neumann (1903 -1957) Nature is written in mathematical language.

Galileo Galilei (1564 - 1642)

Upcoming Events: 57th NWMC is October 18-20, Whistler, BC



http://bcamt.ca/2018/

Featured speakers: Tracy Zager, Graham Fletcher, Fawn Nguyen, Christina Tondevold, Annie Fetter, Michael Fenton , Nat Banting , Dan Finkel, Marian Small, Chris Shore.

Innovate. Collaborate. Learn. <u>NCTM Regional Conference/Exposition</u> *November 28-30, 2018 Seattle.* Washington State Convention Center

NCTM Regional Conferences & Expositions are an opportunity to share knowledge and learn with leaders in the field of mathematics education. Gain new strategies to unleash the mathematical mind of every student when you join NCTM in Seattle this November!

https://www.nctm.org/Seattle/

What's the Matter with Statistics?

Reading the news, we often encounter mistakes in using statistics. A quick survey of articles with top ten lists of statistical errors yields the following most frequent pieces of advice:

Correlation is not causation. <u>Winnifred Louis and Cassandra Chapman of the University of Queensland</u> provide a graph correlating the number of films Nicholas Cage appeared in and the number of people who drowned in swimming pools for every year between 1999 and 2009. The graphs track fairly closely. Does that mean that one caused the other? No, it is just coincidence. Lots of scary correlations can be touted over short time periods that are complete nonsense.

Remember to consider outside causes. Louis and Chapman also give the example of the correlation between eating at restaurants and better cardiovascular health. The most likely explanation is that people able to afford to eat at restaurants regularly are in a higher socioeconomic bracket and can afford better healthcare, including better cardiovascular care.

You need to know the margin of error. Polls that show one position slightly ahead of another are often cited without the margin of error. If the difference between the two figures is less than the margin of error, then the difference is meaningless.

Statistical differences are not the same as real-world differences. We often hear about how the average member of one group is more likely to be "X" than the average member of another group. But, in comparisons where the two groups have wide spread, even a large difference in the average may not mean much about the likelihood that a member of one group will have more of that characteristic. <u>Robert Coe of The University of Durham</u> explains how the "effect size" may be said to be a true measure of the significance of the difference.

Graphs can be misleading. The most common way to make a graph misleading is to restrict the range of one axis to make differences look more significant. For example, if you have a 65% of one group in favor and 62% of another group, a bar graph looks very different if the axis shows 0 to 100% than if it shows 60% to 66%. In the first case, the difference is hard to distinguish. In the other, the larger bar is two and a half times as large as the smaller one. --- Joe Frost