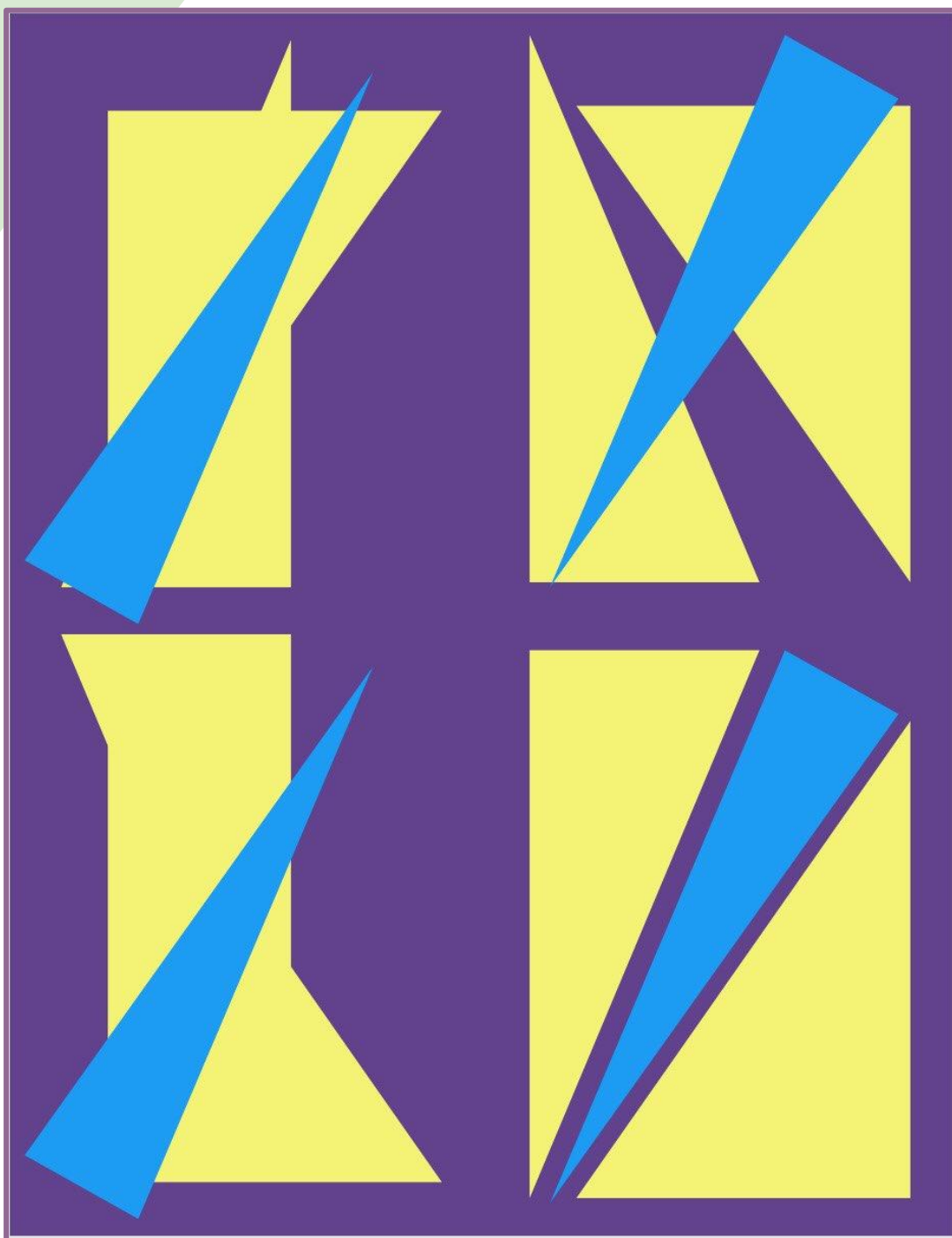


VOLUME IV // FEBRUARY 2021

# ***THE 28 PERCENT***

Women make up only 28% of the STEM workforce.  
This newsletter aims to change that.

by Morgan, 9th grade



01 - FRONT COVER & ART  
02 - EVENTS CALENDAR  
03 - PROGRAMS & SCHOLARSHIPS

04 - A COOL WOMAN  
05 - WRITTEN BY YOU  
06 - CREDITS & CONTACT

2

sign up!

**tuesday march 2 @ 9am - 10am**

***Staying Motivated w. Marie Phillippe-Gill***

Struggling to find motivation? Join us for a conversation with Marie Philippe-Gill, creator of [@GirlKnowsTech](#) & Master's student at John Hopkins University, on how she gets motivated with creative solutions for accountability, like streaming & writing, while writing her thesis on using AI to predict the severity of Parkinson's Disease.

7

sign up!

**sunday march 7 @ 5pm - 5:30pm**

***Build a Website in 30 Minutes for International Women's Day***

This International Women's Day (March 7th), a few [Hack Clubbers](#) are offering a workshop for female/non-binary teens at 5PT/8ET. In just 30 minutes, learn how to make a personal website!

9

sign up!

**tuesday march 9 @ 7pm - 8pm**

***How to Get Started in Tech Before You Graduate***

Frustrated by how many entry-level positions require experience to apply? Join us for an hour-long panel and Q&A with student leaders and hackers from the Major League Hacking and GitHub Education communities to talk about internships, fellowships, and other coding opportunities you can join before you graduate.

23

sign up!

**saturday march 13 @ 10am - 11am**

***Campus Expert Reconnect: Elliot Blackburn***

From the southwest of the UK, Elliot Blackburn is an engineering manager at Just Eat Takeaway. He oversees 7-8 engineers in his team and runs the newsletter for students, and junior engineers called [The Green Coder](#). Get advice and anecdotes from a senior engineer and former GitHub Campus Expert on entering the industry.

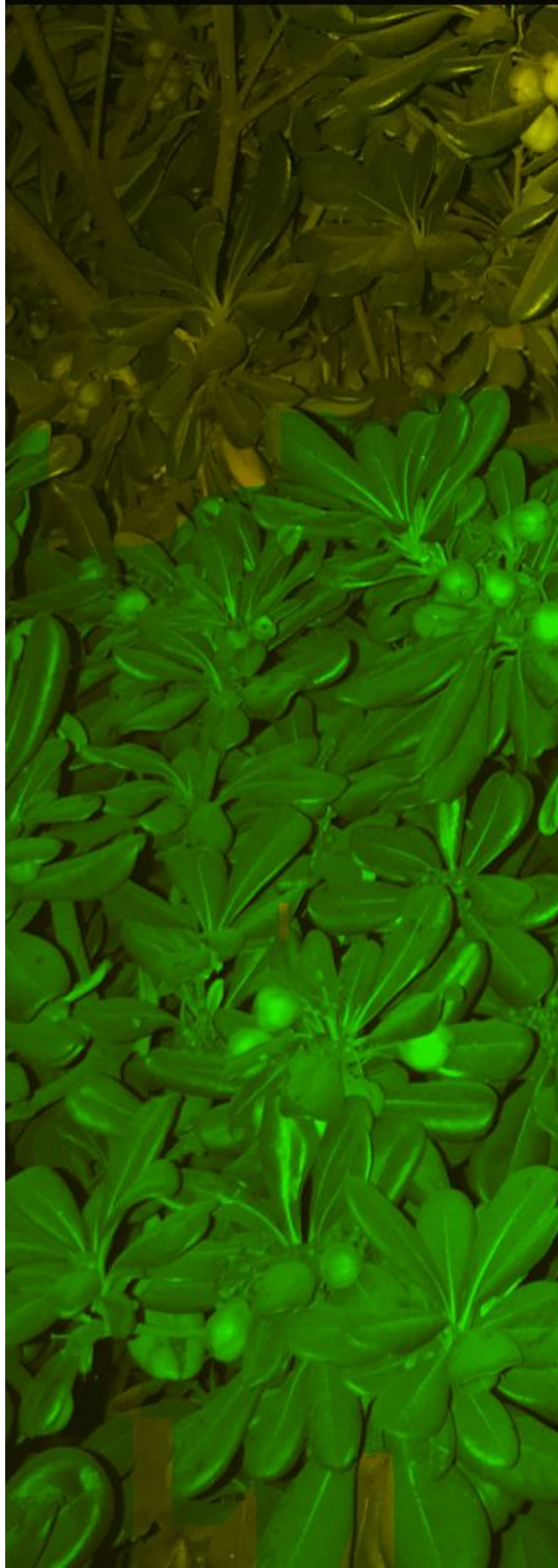
## ***PHS Math Club Announcement***

If you are interested in and/or love doing math, this is the perfect opportunity for you! Our first meeting is on **Friday February 19th from 2:10 - 3:10, and we believe they will always be at that time.** In this math club, there are no set topics, set rules and regulations, just math! Sometimes we do student chosen topics, such as math you are learning currently, and sometimes we do fun logic and math related puzzles. There are also opportunities to do competitions, but they are completely optional.

If any of this interests you, email Mrs. Amaya at [amayadominguez.johan@pusd.us](mailto:amayadominguez.johan@pusd.us)

We look forward to seeing new faces!

Photo and  
Article by  
Violet, 9th grade



# *Modern Math Maven: Eugenia Cheng*

Written by Morgan Gaskell, 9th grade

Dr. Eugenia Cheng is a famous mathematician, concert pianist, educator, author, public speaker, columnist, and artist. She was born in Hampshire, England and her family is originally from Hong Kong. Her mother was a statistician who worked at an accounting firm in London. Her father had a child psychiatry practice near their home. Dr. Cheng was used to her mother as the one who carried a briefcase and her father making dinner. Even from an early age, Cheng was in love with mathematics. She describes a time at age 6 when her mother showed her how by simply raising a number to a power, you can get graphs with curved lines.



Cheng attended Cambridge University and received her PhD in pure mathematics. She has done much research in higher-dimensional category theory, a branch of math that she summarizes as “the mathematics of mathematics”. Put simply, category theory is used to depict how different structures are related to one another. It has much use in topology, programming language theory, and even in philosophical study, incorporating concepts such as space, systems, and truth. Eugenia Cheng is currently a scientist in residence at the School of the Art Institute of Chicago. There, she teaches art students high level abstract math, showing them the application of math in subjects including art.

While she was senior lecturer of pure mathematics at the University of Sheffield, she hosted a YouTube series called *Mathster Chef*, in which she explains mathematical concepts using food. Such videos include how to make the perfect cream tea using a formula that involves the thickness of cream compared to the scone and the total thickness of the dressed scone itself. She uses math to prove that putting clotted cream on a scone is much better than putting whipped cream. Other videos include *The Perfect Way to Share a Cake* and *The Perfect Puff Pastry*. Cheng is also the author of many fascinating books such as *How to Bake  $\pi$* , *Beyond Infinity*, *The Art of Logic: How to Make Sense in a World that Doesn't*, and  *$x + y$ : A Mathematician's Manifesto for Rethinker Gender*.

Math is for everyone! One of Cheng's main goals in life is to rid the world of math phobia. After all, math wasn't created to make humans' lives harder, but to give us a foundation for solving problems through logical reasoning. Visit Dr. Eugenia Cheng's website at: <http://eugeniacheng.com>

# *A Spherification Project*

Written by Emma, 9th Grade

One of my most memorable science projects I did was about spherification. Basically that means turning liquids into, well... spheres. My science project was testing out the spherification process with liquids of different ph levels, and it was very interesting.

It was surprisingly difficult to find things of all different ph levels, and it took a day or two for me to finally get used to saying “spherification” at least somewhat correctly! I remember looking up online what liquids I could use for certain ph levels, and the alkaline ones were the hardest to find. Sometimes I would look something up, and then I would use a ph test strip on it, and it wouldn't end up even being the right ph level!

Once I figured out exactly what liquids I was going to use, I had to then actually turn them into spheres. I did this by using sodium alginate and calcium chloride. What I did was blend the sodium alginate with whatever liquid I was using, and then I had to use a syringe to drop that mixture into a bowl of cold water with disintegrated calcium chloride in it. Then I just watched as the liquid turned to some sort of solid , though you could say not *all* of them ended up being spheres.

I learned that spherification definitely takes practice, but it was a very fun, multiple-month journey of research, trial and error. I had a lot of fun doing this project, and if you find it interesting I would definitely recommend trying it out and unleashing your inner chemist!



***the girls that made this newsletter  
possible:***

Emma, 9th Grade  
Violet, 9th Grade  
Jaidyn, 9th Grade  
Celeste, 9th Grade  
Madeleine, 9th Grade  
Morgan, 9th Grade  
Kira, 9th Grade  
Ms.Orret, Advisor  
& everyone else on the WIS newsletter team

***Check out our website:***

[https://msorret.wixsite.com/  
onlineclassroom/women-in-stem-newsletter](https://msorret.wixsite.com/onlineclassroom/women-in-stem-newsletter)

***have a question? want to get involved?  
want to be featured on next month's newsletter?***

***Email Ms. Orret!***

orret.deborah@pusd.us

