

The STEAM-steinettes Gazette

Edition 6
Summer!
June 2023

“Courage is like - it's a habitus, a habit, a virtue: you get it by courageous acts. It's like you learn to swim by swimming. You learn courage by couraging.”

Marie Maynard Daly

You Are My Sunshine

By: Barros

When a lot of us think of space exploration, we think of looking outwards into the great unknown- past the Asteroid Belt, past Pluto, past Vega and beyond. Recently, however, NASA's Parker project (named after Emeritus Eugene N. Parker, a notable solar astrophysicist) has been turning in on the solar system, locking its target on the big, bright, centre of it all - the Sun. Having launched gracefully from Florida's Cape Canaveral in August of 2018, the car-sized data-collector has been in a stable elliptical orbit of the Sun for the past 5 years,

gathering information about it with feverish haste. In the winter of 2021, it even came so close to the star that it “touched” it, grazing its solar atmosphere, collecting particles from it, and taking in data about its magnetic field, all the while breaking the record for being the first man-made object to get so close. In March of 2023, this amazing little probe managed to complete its *fifteenth* close encounter with the big ball of nuclear fusion, collecting data to be studied in dozens of observatories around the world! Now that's pretty stellar!



Read on! 

FEMALE SCIENTIST SPOTLIGHT

By: Jasmine

ANNA FREUD



Anna Freud, born in Vienna, Austria on December 3, 1895, was the sixth and youngest child of Martha Bernays and Sigmund Freud who was known for his founding of psychoanalysis. Growing up, she didn't always get along with her mother, who could be "strict and domineering", and often felt overshadowed by her five older siblings (Freud Museum). However, she admired her father greatly and by fourteen, found a passion in psychoanalysis (Institute of Psychoanalysis). In her childhood they were close, but as she grew older and developed her own thoughts on psychology, their relationship would eventually become tumultuous.

In 1917, she got a job at a primary school and worked there as a teacher for a few years until she had to retire early due to tuberculosis. The time she spent recovering was also spent studying the work of her father and his colleagues, and her passion for the psychology field grew. By 1922, she was allowed in as a member of the Vienna Psychoanalytic Society (New York Times). Freud often felt different growing up. The differences she felt from her family sparked her interest in helping other children to make more sense of things. She believed "every child should be recognized as their own person in their own right" (The Decision Lab). In 1927 she published *Introduction to the Technique of Child Analysis*, which she presented in London.

Melanie Klein, a fellow psychoanalyst, was a critic of Freud. Their opinions on psychology widely differed. Klein believed children were inherently paranoid, anxious, and depressive. Meanwhile, Freud believed infancy was a precedent to future maturity, and her work prioritized protective, supportive, and educational attitudes towards child patients (New York Times). Her 1936 publication *The Ego and Mechanisms of Defense* elaborated and expanded on both her 1927 publication and her father's work where she identified human defense mechanisms (The Decision Lab). A year later, she opened the Jackson Nursery in Vienna for "extremely deprived toddlers" (Institute of Psychoanalysis). The nursery was not open for long as the beginnings of World War Two sparked.

Freud met her life-long friend and partner Dorothy Burlingham in 1925 when Burlingham sought a psychoanalytic cure for her son's psychosomatic skin condition through Sigmund Freud. They became colleagues when together they opened the "Hempstede War Nurseries" in 1941 to care for children separated from their family during the war. Caring for the children provided them insight on child development and brought forth observations that made the 1942 and 1944 publications *Young Children In War Time* and *Infants without Families*.

Anna Freud died October 9, 1982 in London at the age of 87. Her ashes were placed in "Freud Corner" near Burlingham and several family members. The Freud house became the Freud Museum following her wishes. Freud created and refined the field of child psychoanalysis and her work helped us learn more about child development and behavior. Her research led to the founding of the Anna Freud Center to provide mental health support for children. She once quoted, "I was always looking outside myself for strength and confidence but it comes from within. It is there all the time."

Science Experiments!

By: Jasmine & Aynsley

INTERMEDIATE

Ocean Slime!

There's nothing more fun than slime - except maybe OCEAN slime! Check out [this video](#) to make your very own sparkling blue goo. It's fun to squish, and it's a great way to experiment with density and states of matter.



ADVANCED

Biodegradable Plastic

Bioplastic is shown to degrade at a faster rate than other plastic. Click [here](#) to try making some in your own home!



Global Science Happenings

The maximum temperature of the hottest days in North-West Europe is increasing at twice the rate of maximum temperature of average summer days!



53% of Earth's largest freshwater lakes are storing less water.

By: Sofia

Australian scientists have discovered fire embedded into sand dunes.



THE SCIENCE OF EXISTENCE

By: Hitej

To contemplate the existence of science, first we must dive into the intricate, but surprisingly simple world of philosophy. But first... what exactly is philosophy? Philosophy is the combination of two Greek words. *Philein* (meaning wisdom) and *sophia* (meaning love). Together, these words become in the most literal translation possible, love of wisdom. When you think of philosophy, you might think of Socrates, Plato, or Aristotle, but these names are where it ends. Truly what these philosophers did and what philosophers of today do is question the world in order to find knowledge. The most basic way of performing this task is by questioning the very basis of the world around us. Philosopher René Descartes was one of the first to come up with this concept, one now commonly known as *radical doubt*. So how can we believe that modern science exists, and is correct? We first must answer the question: what does it truly mean to exist?

Is existence defined by one person's thoughts? Or is existence only confirmed through the testament of the populous? I believe that existence is subjective to each person. While one may suggest one thing exists, another can believe a second thing exists. One example of this is color blindness. Where one person may see green, a color blind person may see yellow. If one person can hear a sound, and another cannot, does the sound exist? The answer is yes. So we have established that existence can be proved through testimony. But this can't be the only way something exists. That would mean everything in the world that humans haven't explored doesn't exist. That's simply impossible, If this were the case, no new discoveries would be possible. If this were the case, how could gravity exist before Sir Isaac Newton discovered it?

Now the rest of the story becomes unclear here. Do we have any proof that we exist? No. We could all be dreaming because we don't have access to the minds of others. How can we confirm that everyone else thinks for themselves if we don't have access? It could just be some intricate creation within our subconscious waiting until we wake up to the real world. We have no way of knowing. But when looking at the world around us, that conclusion feels so wrong. So what I have for you is a single question as my way of saying farewell. A bit of homework if you will.

WHAT EXACTLY DOES
IT MEAN TO EXIST?



Movie Review: The Mars Generation

By: Barros

Have you ever wanted to go to Mars? Ever wanted to train like an astronaut or been intrigued by the mention of an astronomy-themed summer camp? If so, “The Mars Generation” is a perfect movie that must have been made just for you! This Netflix Original documentary goes over just what a group of “self-professed teenage ‘space nerds’” went through and learned during NASA’s Space Camp in the summer of 2017, and displays each young scientist’s individual triumphs and struggles as they endure a training course designed to replicate space flight, setting up a habitat on Mars, and all the potential rights and wrongs in between and out. This program also features commentary from experts including Neal deGrasse Tyson, Bill Nye, Elon Musk and Michio Kaku, and even features commentary from my favourite author Andy Weir (whose book, “The Martian” I mentioned in a previous issue)! If this seems enticing to you, grab some popcorn, throw on a NASA t-shirt and get ready for an astronomically inspiring team of space-teens!

**Spoilers
Rating: 7/10**

**For Ages
10+ Years**



Fantastic Facts!

By: Halee

Sunlight helps your body make Vitamin D and the brain chemical serotonin.

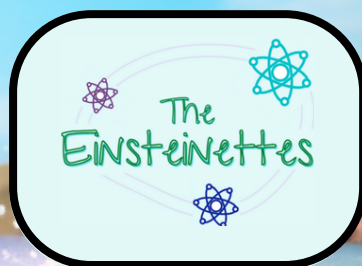
Quantum entanglement allows birds to “see” earth’s magnetic field as patterns of colors when navigating.

Baby sea turtles hatch in June and July.

Meet the Team

Check out the next page to learn all about the team that has brought you
The STEAM–steinettes Gazette!

HAVE AN
AWESOME
SUMMER!



The STEAM–steinettes Gazette is an interclub collaborative science newsletter created entirely by POA students from STEAM Club (6-12) and The Einsteinettes (9-12). A new issue will be published monthly for grades 6-12, each focusing on a different realm of science.



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Meet the Team

Ace



favorite theme
PHYSICS

favorite memory



I loved reading all the amazing articles and celebrating the sciences through the execution of this publication!

Aynsley



favorite theme
BIOLOGY

favorite memory

Our very first meeting, when we spent 99% of it laughing our heads off and I knew that this was going to be an amazing team to work with and learn with and create with for the next months.



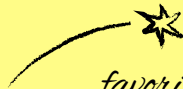
Barros



favorite theme
ASTRONOMY

favorite memory

There was a night towards the beginning of the SSG where a good lot of us were rambling away in our group chat, just absolutely ecstatic, because I and another member had been able to see the International Space Station. I think that was the first time I really ever saw the team as more than just co-workers, but as friends.



Jasmine



favorite theme
ASTRONOMY

favorite memory

Making new friends, writing fun articles, and learning new things about science!



Hitej



favorite theme
BIOLOGY

favorite memory



I enjoyed finding awesome new discoveries in so many different fields within science!

Halee



favorite theme
CHEMISTRY

favorite memory

My favorite thing was designing the newsletter, seeing the final product, and creating the newsletter content.



Sofia



favorite theme
ASTRONOMY

favorite memory



Being able to collaborate with another club and meeting new people.

Special thanks to our wonderful advisors,
Ms. Cristen Jones and Mr. Chad Hamblin.