

# n e w s



News from the trunk!

Thursday, September 23rd, 2021

**BASKETBALL TOURNAMENT!**



**CONGRATULATIONS Hanien Zarroug on winning the National Swimming Championships!**



After school Homework Help is back:

Sundays	3:00 - 3:50
Mondays	3:00 - 3:50
Wednesdays	3:00 - 3:50



# Letter from the Superintendent - Bridget Davies

Dear KAS Community,

Last week we were able to experience democracy in action within our Middle and High School community. After a feverish period of campaigning via posters and flyers all candidates for Student Council positions addressed Middle and High School Students on Thursday afternoon.

All candidates for the positions of President, Vice President, Secretary, Treasurer and Publicist gave impassioned speeches setting out their ideas for Student Council 2021-22. In person voting then took place and we now have a fully established Student Council for the year.

President: Mohanad  
Vice President: Adu  
Treasurer: Abubakr  
Secretary: Rayan  
Publicist: Jonathan

At KAS we were also fortunate to have had a transitional student council who have already organized a range of events – from the basketball tournament this week to a book character dress up day earlier this quarter.

Thank you to Ms. Shireen and Ms. Minette for the support and work with the Student Council.

Have a lovely weekend,

Bridget Davies

# Homework Help

Homework Help is a program for middle and high school students to work on school assignments quietly with staff support if needed. It is held in the library on Sundays, Mondays, and Wednesdays from 3:00-3:50pm. Teachers are available to help with any class subject and each day there are teaching staff from English, Math, and Learning Support to work with students.

Student expectations:

- Students are expected to be working on assignments or studying while attending Homework Help sessions.
- Students are expected to be working quietly on-task.
- Once students sign in for Homework Help they are expected to remain for the duration of the session.

While Homework Help has traditionally been a relaxed place to work and study, this year we are implementing some safety measures in alignment with our COVID protocols:

- Sit at marked table spaces for social distancing.
- Once a student signs in for attendance and chooses a seat, s/he must remain in that seat for the duration of the session.
- Use hand sanitizer before entering.
- Sharing supplies is discouraged.

Please encourage your middle and high school children to take advantage of additional help from teachers and quite work time after school by attending Homework Help.

Please contact us with any questions.

Nicole Stacey  
Student Support Services Coordinator  
nstacey@krtams.org





# The Benefits of Hands-on Learning

Hands-on learning is the process of learning by doing. To be most effective, hands-on activities should mimic a real-world scenario as much as possible. It also helps students engage with the subject matter to solve a problem or create something.

Hands on learning has many benefits such as:

## **Inspiring a love of learning**

Learning by doing allows children to become personally invested in their own learning process. Becoming actively engaged in their education builds confidence, as the lessons require students to rely on their own abilities to obtain knowledge.

## **Encouraging experimentation**

Hands-on learning allows students to experiment as they test concepts with tactile equipment, learning as much from their failures as their successes.

## **Aiding comprehension**

The hands-on teaching strategy engages the senses in a way that promotes learning comprehension on multiple levels. This practice allows students to understand information and also to use it.

## **Improving knowledge retention**

Tactile equipment that can be handled by the student increases the likelihood that knowledge learned in the classroom will be retained.

The best example for hands-on learning comes from attempting to teach someone to ride a bicycle. No matter the number of books you read about cycling, to actually learn you should go out and ride it. Clearly, in certain situations, hands-on learning is vital.

Sarah Osman  
Learning Support

# NASA

NASA has been watching asteroids for some time now as the concern about the possibility of one entering the atmosphere and contacting the surface could have a devastating effect on earth, just ask your local dinosaur! Currently an asteroid named “Bennu” has been a source of anxiety as NASA has determined the exact date an impact is most probable: September 24, 2182. So in 60 years it \*might\* be a huge problem.

The average person knows of asteroids; a few still can differentiate between asteroids, meteors, meteorites, and comets. To this end, our solar system contains more than a million tiny asteroids that are highly unlikely to come anywhere near Earth.

**If a large asteroid were to impact Earth’s surface the result could be catastrophic. This concern has led NASA to form the Planetary Defense Coordination Office (PDCO) in 2016. It’s mission is to detect and monitor any potentially dangerous asteroids and create a plan to prevent impacts.**

The Bennu asteroid was discovered in 1999 and is currently almost 200 million miles away from us, but it’s expected to get within 125,000 miles in 2135. For reference that’s about half the distance between Earth and the moon. The asteroid is about one-third of a mile (half a kilometer) wide, and if it were to impact Earth, it could cause the creation of a crater that’s 5 to 10 kilometers in diameter.

**But as they say on TV “but wait, that’s not all!!!”**

The area of devastation would be much broader than that, as much as 100 times the size of the crater.

Because of this potential destruction, in 2016 NASA launched the OSIRIS-REx spacecraft to find out as much information as possible about Bennu by recording data from its orbit and even landing on the asteroid to collect rock samples.

Those samples won’t be in NASA’s hands until 2023 when OSIRIS-REx returns, but NASA states that the data already received will give us a more precise model of the future trajectory of Bennu.

With this new model, NASA had found that the chance of the Bennu asteroid hitting Earth between now and the year 2300 is about 1 in 1,750 while there is a 1 in 2,700 chance of impact between now and the year 2200, with the most likely day of impact being September 24, 2182.

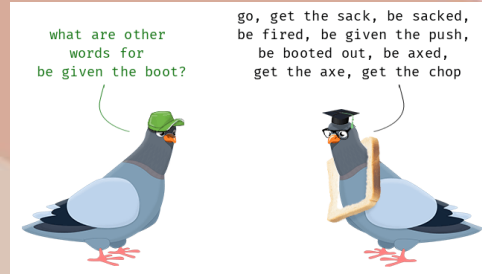
**Bottom line: The impact probability remains really small, we have time to prepare, and our capabilities for tracking are getting better.**

BILL COLLINS

# Saying of the week

To be **Given The Sack** is to lose your job, or be discharged from duty. This expression dates back to the day when craftsmen, tradesmen, and laborers would travel from place to place, sometimes working on a project for only a few days and at other times for many years. Long before toolboxes, these workers would carry the tools of their trade around in a large sack, which would be given to their employer for safe keeping and then returned when their services were no longer needed. To be **given the sack** was to be given the means to carry their tools to another place of work, unlike Fired when the tradesman had been caught stealing or breaking the rules, and his tools would be burned to ensure he would be unable to work elsewhere.

Minette van der Bijl  
HS EAL



## FUSION ENERGY

Ethan Kim, a grade 10 student, has done independent research into **Fusion Energy**. The research is much too long to publish in E News, so Ethan has decided to submit a series of short articles to reflect his research.

### **The Introduction to Fusion Energy: A Promising Source to Replace Nuclear Fission**

Following alarming events such as the Chernobyl disaster and the Three Mile Island accident, during which harmful radiation leaked into the environment, many voices of concern were raised over the safety and viability of nuclear energy, with some groups going so far as to advocate for the shutdown of the entire industry. However, nuclear energy isn't a single "type." Rather, it consists of two fundamentally different methods of production: nuclear fission, in which energy is generated by splitting atoms, and nuclear fusion, in which energy is generated by fusing atoms [1]. The type that raises controversy is nuclear fission, which produces radioactive waste, is costly to maintain due to the risk of reactor meltdown, and is three to four times more inefficient in energy production than nuclear fusion. These advantages make nuclear fusion more favorable not only in an economic sense, but also in an environmental one, with the type contributing to at least three goals in the United Nations' 17 Sustainable Development Goals (7, 9, 13).

While nuclear fusion is still in development, researchers, after decades observing the natural nuclear fusion in the Sun, now have considerable understanding of this method. First, an insulated high-temperature environment exceeding one hundred million degrees Celsius is required to form the ionically charged particles known as plasma, currently imitated by particle accelerators [2]. This condition, in turn, allows for the attractive nuclear force to overcome the Coulomb force that normally keeps atomic nuclei apart. Then, the resulting attraction simultaneously causes the nuclei to fuse together into forming a heavier atom and releases nearly four million times more energy than in chemical reactions, thus resulting in energy.

Given plasma's ubiquitous nature both in Earth and in outer space, harnessing nuclear fusion will grant humans virtually unlimited energy. Over the course of this project, the history, process, and obstacles in developing nuclear fusion will be discussed in depth.

#### Sources:

- <https://www.iaea.org/fusion-energy/what-is-fusion-and-why-is-it-so-difficult-to-achieve#:~:text=Nuclear%20fusion%20and%20plasma%20physics,a%20net%20fusion%20power%20gain>.
- <https://www.sanfordlab.org/feature/mimicking-nuclear-fusion-stars>

#### References:

- <https://www.scientificamerican.com/article/nuclear-power-looks-to-regain-its-footing-10-years-after-fukushima/>
- <https://research.binus.ac.id/rigpcs/2013/12/06/fission-vs-fusion/>
- <https://www.iaea.org/fusion-energy/what-is-fusion-and-why-is-it-so-difficult-to-achieve#:~:text=Nuclear%20fusion%20and%20plasma%20physics,a%20net%20fusion%20power%20gain>.