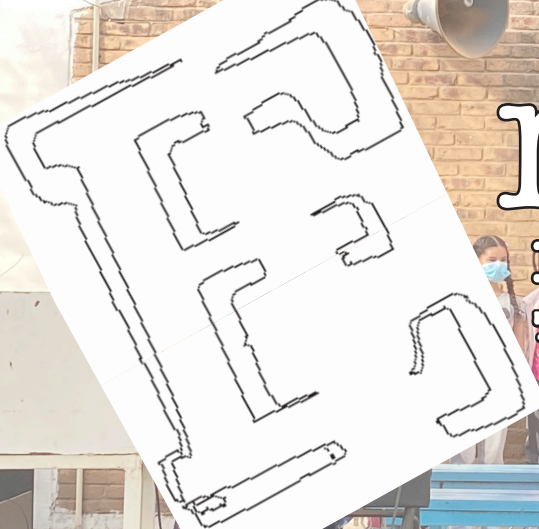


# news

News from the trunk!  
Thursday, December 9th, 2021



SPIRIT WEEK FUN!



MUSICAL PERFORMANCES!

FREE HOT CHOCOLATE!



**EXAM WEEK IS FROM Sunday 12 TO Thursday 16!**

## Letter from the Superintendent – Bridget Davies

Dear KAS Community,

As we approach the end of the semester I wanted to thank all members of the KAS community – parents, students, teachers, office staff and workers – for your contribution towards the school. This is even more important currently as we transition to online learning for the last week of school. Please do contact teachers and assistants if you have any concerns or questions about your child's online learning. The IT team are there to help if you require support with any of KAS' platforms.

Please know that over the December Holidays we will be closely monitoring the COVID cases within Khartoum as well as the effect of the Omricon variant, particularly within the context of how effective vaccines are.

Best wishes,  
Bridget Davies

## Letter from the Principal – Susan Boutros

Dear Parents,

It always surprises me how fast time passes at Khartoum American School. We have one week until the end of the semester.

As we come to the end of semester one, I would like to give thanks to all our parents for the support and trust you have shown us and to the teachers who have ensured that learning for all students continues in spite of school closures, internet outages, half day schedules and online learning. Last but not least, I would like to thank our students who kept on working hard and learning during these changing times.

This semester has taught us many lessons and one of the great lessons has been adaptation to changing times. During these times we have had the privilege to continue learning and we promise to keep doing so.

The last week of this semester will be fully online for all our students. For high school students this will be exam week. Elementary school and middle school will classes will be online. Pre-school and pre-kindergarten will have a packet of work and they will also have a daily zoom meeting with their teachers.

Thank you again for your continued support. I wish our students a very productive week of online learning.

I wish you all very happy and safe holidays!

Susan Boutros

## Saying of the week

If we are **On The Breadline** we are poor and on the verge of destitution, the inference being very close to disaster. This is an American phrase, which travelled across the Atlantic in the 1870s. Around that time a celebrated bakery, run by the Fleischman family in New York, was famous for the quality of freshness of its bread. The reason was that all the bread was baked in the morning and any left over at the end of each day was given to the poor and starving for free, rather than kept for the following day's customers. A queue, in America, is known as a line, so at the end of each day a **'breadline'** would form outside the premises, and those on it were close to starvation.

Minette van der Bijl  
HS EAL Teacher

# Do You Want to Speak Great English?

## Suggestions for Making It Happen

By Salma Saeed

Attending MS ESL classes is only part of our students' English language development. To become competent in English they have to take responsibility and be active in acquiring it. In other words, they have to live and breathe English. How well you succeed is really up to you. Here are some suggestions for making English your own; number 1 is the most important.

### **5) Surround yourself in English, make it your hobby and have fun!**

Read graded books, magazines and newspapers and the Internet in English. Watch TV and movies in English; listen to songs in English (take your favorite songs, download the lyrics (the words) from Google and sing them again and again); join any gathering that is conducted in English. The important thing is that you use every opportunity you can to speak and interact in English. Even basic greetings and everyday classroom expressions can move students towards language competence.

### **4) Be constant!**

Constant practice is the key to learn a language. Therefore, don't stop for long periods of time such as in the summer holiday and don't do too much! It is also important to study every week for at least 3-5 hours.

### **3) Don't hold on to your dictionary so tightly**

The top priority objective in learning English is to be able to think in English. Researches have shown that our brains slow down when we are constantly translating English to and from our language. Some students would immediately go to their paper/electronic dictionaries whenever they come across a new word. Those students are highly advised to stop translating new words directly into their native language. Instead they can follow these steps (if step 1 does not work, move on to step 2, then 3 and lastly step 4):

1. Try to understand the new word or phrase from context. The words and ideas around them should help you make a good guess.
2. Ask someone to explain what it means in English.
3. Check an English-English dictionary.
4. Check a dictionary in your own language.

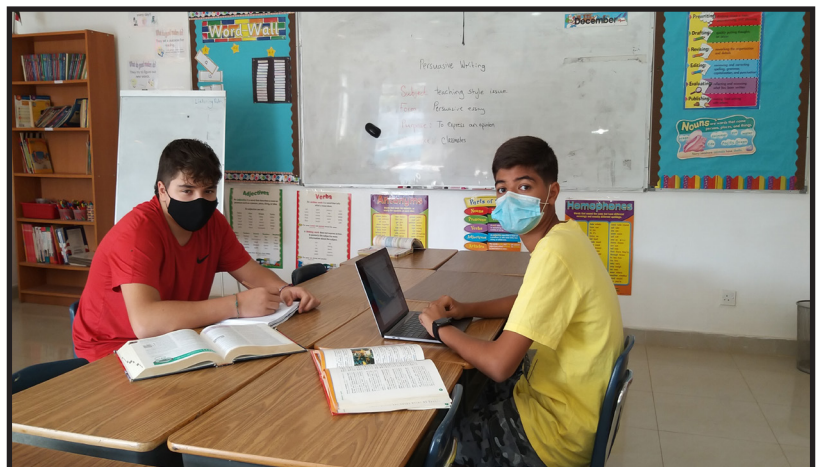
### **2) Create your own dictionary and keep a list of new words and phrases**

Make your own vocabulary lists and review them often. Write them in sentences to help you remember what they mean. Use these new words and phrases in conversations and writings whenever you have a chance. The more you use the words, the more they become your own.

### **1) It is your responsibility to achieve your objectives!**

Students must always remember that learning English is their responsibility and not the responsibility of their teacher. They must show initiative in mainstream and ESL classes! The teacher cannot learn or study English for you. For example, you often have to study and learn vocabulary alone.

With point number one, you will develop all of the other points. If you apply these five points with long-term motivation, you will learn English or any language. Remember, practice makes perfect!



# BEING A THIRD CULTURE ADULT

Liz Boughey  
P.E Teacher

As the Christmas holiday approaches, there is often great excitement for those who celebrate this festival commemorating the birth of Jesus Christ. Although as a child, I loved this time of year, not just for the presents but because I got to spend time with many of my relatives whom I often didn't see for the rest of the year. Now, as someone who has lived and worked outside of the country in which I was born for over 25 years, it is with mixed emotions that I look forward to the festival of "Christmas".

My usual Christmas holiday routine, is to spend time travelling to regions that I have not yet explored, close to wherever I am currently living. Admittedly, this often involves some time spent soaking up the sun on a beach, swimming in the ocean and eating and drinking the "best" food of the region. However, it usually also involves exploring markets, meeting strangers and generally deciding whether if I decided to take a new job in the region, would I be able to live there? Having lived in four different continents, my Christmas travels have been extensive and include climbing Machu Picchu in Peru, memories of which are often rather hazy, as for many parts of the trip I was either soaking wet or struggling to get my breath as I made my way up and down the Machu Picchu trail. Of course, I should have known what to expect as a few years earlier I had climbed Mount Kilimanjaro, In Tanzania, where for four days I struggled for breath and often could not feel my joints as the altitude lowered the temperature and made moving even more difficult. Travelling around Brazil by myself was definitely exciting but at times rather scary, as I had only lived in the country for a year and although throughout the year I had managed to compete in local running and swimming competitions using my basic Portuguese, travelling to regions with different dialects and where foreigners were not that common, often led to some interesting misunderstandings.

The words, "usual" and "normal" however, have taken on very different connotations over the last few years, as the spread of COVID 19 has affected the lives of millions of people, in every corner of the world. Travel now, is certainly not "normal" and often not even possible, so planning some form of excursion in Africa was not really an option this Christmas. So, I was left with the decision of whether I tried to go back to England, for this festive period. Perhaps for some an easy decision to make, family, familiarity and lots of festive fun. Not for me. Having been out of my country of birth for so long, I often feel out of touch during big family gatherings. What do I have in common with my relatives, who have lived all of their lives within fifty miles of where they were born? Conversation, is often short, as my topics are often of no interest or relevance to those around me. I feel awkward and it is as if I don't belong. If I get to travel, the initial excitement of being able to escape the heat, shop without having to visit many different places and return with items I wish I had brought with me in the first place, will be mixed with the uncomfortable feeling of "not fitting in".

In International Schools there are many Third Culture Kids, who often struggle to answer the question, "Where do you come from?". I have now realized that I am a Third Culture Adult. I know where I come from but when I answer the question, I always find myself saying, "but I have not lived there for twenty-five years".

# The Naturally Occuring Process of Nuclear Fusion

Ethan Kim  
2021.12.09

Independent Science Research Project

While nuclear fusion is yet to be introduced as a noticeable source of energy on Earth, such a situation is completely reversed in outer space, where nuclear fusion has essentially been the creator of all known elements since the Big Bang in a process known as nucleosynthesis. Nucleosynthesis, the formation of new atomic nuclei through the fusion of existing elements, first began 15 minutes after the inception of the universe when it yielded the first chemical elements of hydrogen, helium, lithium (Johnson 474). After this Big Bang nucleosynthesis (BBN), the production of new elements were largely led by the stars, which had been created by the fusion of hydrogen and helium particles during BBN, in a process known as stellar nucleosynthesis.

Stellar nucleosynthesis has been a significantly more drawn-out process that has persisted for billions of years, compared to BBN which lasted for 20 minutes since the Big Bang (Coc and Vangioni 1). This is due to new elements having to be kept in the metallic cores of a star until a catastrophic internal explosion known as a supernova released them, the shockwaves from the explosion triggering new nucleosynthesis, and the slow rate of nuclear fusion in converting hydrogen to helium—the first elements of the known universe (Yoshida, Hosokawa & Omukai 2)—in two sets of reactions known as the proton-proton chain and the CNO cycle.

The process of proton-proton fusion is known to be "so slow that it cannot provide enough power to support high-mass stars" (Johnson 475), a single proton fusion taking an average time of 9 billion years to occur. However, the sheer number of protons allows numerous reactions to simultaneously occur to provide luminosity. A stellar body involved in proton-proton fusion also contracts its mass and increases its density, thereby reducing its lifespan in favor of quicker nuclear fusion. Even so, nucleosynthesis tends to terminate following after the first production of carbon and oxygen, both critical elements in the CNO (carbon—nitrogen—oxygen) cycle.

In stars with lower masses than that of the Sun, the CNO cycle accounts for less than 1% of the total energy produced by nuclear fusion. However, in bodies with larger masses than our Sun, the CNO cycle is the primary provider of luminosity-generating energy. The process, which utilizes carbon, nitrogen, and oxygen to produce helium from hydrogen, is the following: a carbon-12 nucleus absorbs a hydrogen proton to produce nitrogen-13 and gamma radiation ( $\gamma$ ), which decays into carbon of the same isotope ( $\beta^+$  decay) and absorbs proton once again until being converted to oxygen-15 in another  $\gamma$  absorption. The oxygen then decays into nitrogen-15 and finally absorbs a hydrogen proton in alpha decay ( $\alpha$ -decay), resulting in helium-4. The resulting release in energy in the form of mega electron volts provides luminosity, or light.

The buildup of helium-4 in the core of stellar bodies results in the triple-alpha process (triple- $\alpha$  process) in which fusion occurs to form carbon-12 and release energy. These three processes of fusion are the driving forces behind "natural" nuclear fusion.

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