



LAUNCHING CURIOSITY:

STUDENT INNOVATION FROM THE ARCHERY RANGE TO DEEP SPACE

K S Lo students are driving innovation! This time, we feature their recent, groundbreaking STEAM project outcomes.

Artemis

The Challenge of Coaching for Archery

Before we introduced Artemis, coaching for archery relied heavily on abstract, subjective instructions regarding an athlete's shooting posture. This often left the archer unclear on how to make precise improvements and lacking an objective understanding of their complete physical movement.

For example, during our team practices, the high number of athletes means a coach can only provide 5 to 10 minutes of individualized instruction per player. To maximize teaching efficiency with such limited time, coaches require more accurate and specific guidance methods.

The Artemis Solution

To address this challenge, our STEM club developed the Artemis system. Artemis directly enables the coach to point out the precise angle value that needs adjustment for each key joint, transforming abstract advice into objective, measurable instruction.

Initially, we attempted to capture automatic screenshots using a pressure sensor to collect archer posture data. However, the sensor did not function reliably due to factors such as hand humidity or an unstable connection to the computer. We finally implemented a program that triggers a screenshot based on real-time joint degree detection when a key movement is completed.

Facilitating Independent Practice

There is often a significant gap between an archer's subjective feeling and their actual posture, making it difficult for team members to correctly apply instruction after a session.

This is where Artemis's screen delay function becomes invaluable during independent practice. By using the delayed camera feed, which shows the movement immediately after a shot, team members can verify and correct their actual posture and joint angles outside of the coach's direct supervision. This gives the archer a more objective understanding of their technique, enabling them to make precise modifications to align their movements more closely with the coach's instructions.

Future Development

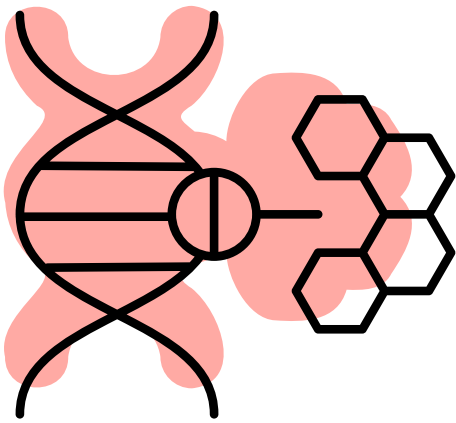
Artemis is currently a prototype with significant room for enhancement. Moving forward, we plan to add more advanced functions, such as monitoring the physical level of the bow or grip stability. Since the grip is just as critical as the archer's posture, we aim for Artemis to provide comprehensive feedback to maximize the archer's overall performance.



Cockroach Biology in Microgravity

Our project explores how microgravity affects cockroach biology, focusing on four main areas: reproduction, exoskeleton composition (especially chitin), molting cycles, and flight adaptations. By integrating microchip technology, we monitor individual cockroaches in real time, collecting continuous physiological and behavioral data. These results are compared with Earth-based control groups to rigorously analyze the impact of space-like conditions.

This research enhances our understanding of how organisms adapt to space environments. It also examines changes in chitin, a key material in the cockroach exoskeleton, which may inform the future development of lightweight, durable biomaterials. Additionally, we are exploring the idea of using cockroaches as a sustainable protein source during long-term space missions, contributing directly to food security in space.



Educational Impact and Takeaways

Beyond the scientific goals, this project has been an exceptional learning experience for our team. As secondary school students, we engaged in a research process similar to university-level studies. We designed experiments, formed hypotheses, and collaborated as a team—developing skills not commonly taught at our academic level. We had passionate discussions, debated design choices, and overcame unexpected challenges. For instance, figuring out how to accurately measure molting frequency and exoskeleton thickness in microgravity required significant creative problem-solving. We learned to think critically, adapt, and apply classroom knowledge in real-world scenarios. These experiences sparked our curiosity and gave us a comprehensive understanding of what genuine scientific research involves.

We hope our project encourages broader interest in space biology, promotes innovation in biomaterials, and supports the development of future space habitats. Most importantly, we aim to inspire other students to pursue scientific exploration and contribute to humanity's future beyond Earth. Working on this project has clearly shown us the power of curiosity and teamwork, proving that even young students can contribute meaningfully to science.



5A Tsang Lap Yan



震撼與榮耀：親歷海南航天創科之旅

我十分榮幸，能夠前往祖國海南省，參與七月中舉行的「海南航天創科青年交流團2025」，深入瞭解當地科技發展與航天事業的成就。

親歷火箭發射的震撼瞬間

整個旅程中，最讓我印象深刻的，莫過於清晨在海南文昌現場直擊火箭發射升空。我們親臨位於文昌航天發射場附近的瑤光火箭發射觀禮平臺，零距離直擊長征七號遙九運載火箭搭載「天舟九號」貨運飛船升空的一刻。這次任務計劃將飛船送往中國空間站，並對接「天和」核心艙。

在觀禮平臺上，我們親眼目睹了烈焰騰空、巨箭刺破蒼穹的壯麗瞬間。那撼天動地的轟鳴與直冲雲霄的軌跡，不僅是一場視覺與聽覺的盛宴，也是一次心靈的極致震撼。那一刻，見證了祖國科技一日千里的雄厚實力，那濃濃的民族自豪感禁不住在心中澎湃激蕩。

探索文昌航太超算中心的科技縮影

隨後，我們參觀了文昌航太超算中心，這裏絕對是中國航天科技創新與騰飛的一個縮影。甫踏進中心，模擬火箭發射的震撼場景已直逼眼球，加上逼真的音效轟鳴，仿佛親歷其境，置身於壯闊的發射現場，令人驚歎不已。

透過詳實的展示，我們瞭解到祖國已將種類繁多的衛星送入太空，連成一張覆蓋全球的龐大衛星網絡，以及由此建構的航天大數據全生命週期管理系統。當親睹展板上熠熠生輝的航天成就，心裏那股以中國人為榮的驕傲油然而生。

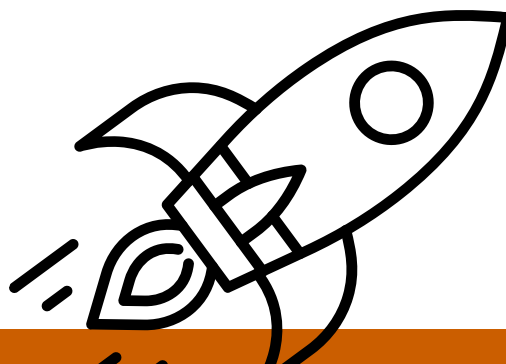
更令人讚歎的是，中心內陳列着真實的衛星模型。通過近距離觀察其精密的構造與複雜的細節，航天工程的嚴謹與精妙，以一種前所未有的直觀方式烙印在我們心中。

中心內展示的前沿科技應用同樣令人印象深刻：如元宇宙虛擬拍賣場，將現實場景無縫融入網際空間，科技感十足；靈活矯健的機械狗，展現了仿生學的魅力；以及與人工智慧對弈的體驗，讓我們感受到人機交互的奇妙。

這一切，無不昭示着國家對科技創新的高度重視，也讓我們深刻領悟到日新月異的科技正不斷提升我們的生活品質，將虛擬與現實的距離不斷拉近，在未來國家發展佔有舉足輕重的地位。我們滿懷熱忱，期盼着科技的力量終能將更多天馬行空的想像化為觸手可及的現實。



4D 蕭宇晴



NEW FACES, NEW SUBJECTS: S.1 STUDENTS SHARE THEIR FIRST IMPRESSIONS

The transition from primary to secondary school is a major milestone, often filled with a mix of excitement, anxiety, and curiosity. We invited four of our new Form 1 students—Jamie Bright Lee (1A), Ally Cheung (1B), Gavin Wong (1C), and Kelly Lei (1D)—to share their experiences during their first few weeks at K S Lo College.

Read on to hear their thoughts on everything from making new friends and meeting helpful teachers to tackling new subjects like Technology and Living and exploring new facilities like the Science labs and the English Café.



1A Bright Lee Jamie

When I first started secondary school, I wasn't very enthusiastic. I had spent the last six years building friendships and bonding with my teachers in primary school, and I was reluctant to start all over again.

However, when I first entered my classroom and sat down, I was surprised by how easily I could talk with my new classmates. We had a great time laughing and bonding, and I was amazed at how quickly the time went.

One fond memory from my first few weeks is when a new friend gave me a bracelet. It was so small it wouldn't fit on my wrist! It might sound like a small moment, but when you're just starting out, simple acts of friendship like that mean a lot.

One of the first surprises at K S Lo was a new subject: Technology and Living. We started with sewing, and I had never even touched a sewing machine before. At first, threading it seemed so complicated—I had to guide the thread over, under, and through all these different parts—but with my teacher's help, it became simple. I am looking forward to more new experiences and interesting stories to tell.

I just moved from primary school to secondary school, and wow, they're really different! There are more subjects, and the school has way more facilities! On my first day at K S Lo College, I felt happy but also a little bit scared because there were so many new faces. Luckily, my class teachers were super nice and helped me feel less nervous.

During the first week of school, I didn't make any new friends because I wanted to get to know my classmates better first. So I decided to focus on my studies. There are also some new subjects I didn't have in primary school, like TL and Chinese History. Chinese History is quite difficult for me, but TL is more fun because I like cooking. On the other hand, the coolest thing I've done so far is doing interesting experiments in Science; it's awesome to work in the lab!

I am looking forward to my new school life at K S Lo. I really want to try brewing coffee in the English Café. The smell of coffee is amazing, and it feels so cool to be a café barista at school. I can't wait to try it.



1B03 Cheung Kok Lam, Ally



Hello everyone! I'm excited to write about my interesting new school life at HKMA K S Lo College—the things that fascinate me, and what I'm looking forward to. Let's take a quick trip down memory lane!

On my first day of school, I was extremely excited to meet new friends, but I was also a little bit anxious. Being a loquacious person, I chatted a lot with my new classmates. One of them is Him. He speaks English eloquently, and in my class, there aren't many students who are willing to speak English that often. Because of this, we got along very well.

I also made friends with another classmate, Louis. We often go to the school library every day after lunch to play Chinese chess. When the English Café is open, we go there to play international chess instead.

After all these weeks, my favourite place in the school has to be the English Café! It's a brilliant place to hang out with friends, offering a variety of board games like UNO, Exploding Kittens, and Reversi. In addition to board games, there are also fun Kahoot! quizzes that anyone can participate in. On top of that, there's coffee! You'll have to get there early, though, as there is a limited amount. The early bird gets the worm!

Studying here is splendid. I'm looking forward to exploring more of the school and achieving great results in all my subjects.

It's hard to believe it has already been two months since the first day of school. This place is already full of laughter, sweat, and friendship, and I still vividly remember what happened on that first day!

The most memorable event so far was also probably my favourite moment of Form 1. During the school barbecue party, instead of focusing on the “delicious” burnt food, I went around taking funny photos with my teachers and classmates. That was the highlight of the whole event, and I still smile when I remember how those photos turned out!

For me, making friends is relatively easy since I'm an extroverted person. On the first day of school, I was looking for people to talk to when my eye landed on my classmate, Ziyana. She seemed like a nice person, so I walked straight up to her and asked, ‘Would you like to be friends with me?’ She looked shocked for a moment and then replied, ‘Of course! By the way, why would you choose me to be friends with?’ I smiled and said, ‘Because I think you're a nice person!’ She laughed, and we became friends.

As everyone knows, secondary school has more subjects than primary school. The one I find most interesting is Technology and Living. We are currently learning how to sew a pencil case, which I think is really fun! I am also looking forward to learning how to cook. It's a great and practical subject.

My secondary school life is off to a great start, and I'm happy with it. How is your school life so far?

