

5. Science Education

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To develop our girls into scientifically literate individuals, the Departments of Junior Science, Biology, Chemistry and Physics in the Science Education Key Learning Area have provided a wide range of learning experiences, both inside and outside classrooms, to equip our girls with the necessary knowledge, skills, values and attitudes.

Junior Science Department

Our Junior Science students took part in the Junior Secondary Science Online Self-learning Scheme organised by the Education Bureau and supported by the Hong Kong Virtual University under the Hong Kong University of Science and Technology. Contents on the e-learning platform were divided into 6 different science subjects, including astronomy & earth science, biology, chemistry, environmental science, food & health science, and physics. Students could study at their own pace through fun and engaging activities and videos, being able to test their newfound knowledge at the end of each session, with 80% of our student participants from S1-3 attaining the Gold Award. Chu Tin Wing, Leung Hoi Shun and Wong Hei Lam performed outstandingly, attaining some of the highest scores on the quizzes in Hong Kong.

30 Students in the Junior Forms participated in the DGS Scientific Research Program, taking part in a series of lectures and workshops designed to enhance their skills in conducting innovative experimental research. The program allowed students to go beyond the classroom and foster a passion for topics they do not usually have the opportunity to explore.

The Junior Science Department is committed to finding new innovative ways to enhance our students' scientific literacy, cultivate their interest in science and encourage them to pursue the latest science knowledge through self-directed learning.

Biology Department

This year, the Biology Department organised various activities to enrich students' knowledge in biology, raise their awareness in conservation and environmental issues and develop their interest in biological research and biology-related field.

To bridge the gap between theoretical knowledge and practical application, 44 students participated in the Queen Elizabeth Hospital 60th Anniversary Hospital Visit, 'Explore QEH'. Students gained valuable hands-on experience by trying out some basic tasks in operating theatre. The discussion with professionals about their medical education journeys enhanced students' understanding of the career paths in the medical field.

Some girls attended the International Pathology Day Workshop and the Laboratory for Probiotic and Prebiotic Research in Human Health (LPPR) Summer Workshop organised by the Hong Kong College of Pathologists and the Hong Kong Polytechnic University respectively.

Our S5 girls took part in a field study course hosted by the Ho Koon Nature Education Cum Astronomical Centre to study the local stream flora and fauna and their importance in freshwater ecosystem in Tai Kiu, Tai Mo Shan.

To further promote students' understanding of current environmental challenges and the importance of conservation, a team of girls participated in the Juvenile Horseshoe Crab Rearing Programme organised by the Ocean Park Conservation Foundation. The rearing team leaders held a series of promotion activities and workshops in DGS and DGJS community to share their horseshoe crab rearing experience and learning outcomes from the programme.

In May, a group of S6 girls conducted a workshop titled 'An introduction to Microscopy' for the P4 girls of DGJS. This workshop provided a valuable platform for learning biology in the DGS family.

Chemistry Department

This year, 87 students from S4 and S5 Chemistry classes participated in the Chemists Online Self-study Award Scheme jointly co-organised by the Education Bureau and the Hong Kong Virtual University. The programme allows students to learn interesting topics in Chemistry at their own pace. Participants were given a chance to learn Chemistry outside classroom and beyond the scope of examination syllabus. At the end, 37 students were given the Diamond Award, as a recognition of their effort and enthusiasm throughout the course.

Apart from encouraging students to take part in different competitions, the department will continue to look out for different opportunities for students to learn beyond classroom, especially activities which allow students to experience how crucial the role chemistry plays in our daily life.

Physics Department

The Physics Department continued to provide quality teaching and learning opportunities to our students, enhancing their engagement in physics learning through different lectures and competitions. Our focus on real-world applications has empowered them to connect theory with practice, preparing them for future challenges.

Six girls from S2 to S5 attended the Aerospace Sharing Lecture organised by the CUHK on 15 April 2024. It was a valuable experience for them to learn more about China's current aerospace science and technology development and some related issues like environmental protection. Two girls were selected for the boarding visit of MV Xue Long 2, a Chinese icebreaking research vessel. They were highly inspired by the research facilities on the vessel and had more ideas about how marine samplings and data are collected and analysed.

On 11 May 2024, eleven girls from S1 to S4 attended a talk on "Physics at the energy frontier: The Higgs discovery and the future" at the CUHK. They were highly inspired by the discovery of the elementary particle through experimental methods and had a better understanding of the universe.

Our girls continued to perform well in the public examinations. It was another record-breaking year for Physics, with 16.7% and 30.6% of students getting levels 5** and 5* respectively in the 2024 HKDSE and 37.5% and 50% achieving A* and A respectively in the International A-Level exams.

The following are some of the highlights of the achievements made by our students in external competitions this year. 4U Amanda Leung Tsz Kiu was awarded the First Class Honours in the Hong Kong Physics Olympiad 2024 organised by the Hong Kong Academy for Gifted Education, while our school was awarded the Honourable Mention for Schools in the competition. Two teams of S4 and S5 students took part in the Hong Kong Young Physicists' Tournament (HKYPT) 2023, in which students had to solve complicated real-world physics problems through presentations. Both teams received Gold Medals out of 14 participating teams.

Science programmes and competitions 2023-2024

Under the coaching and supervision of the Science teachers and our Science Research Project Advisor, our students participated in many other local and non-local programmes and competitions and attained some encouraging results. Some of the activities are shown below:

1. In the 17th Hong Kong Budding Scientists Award, organised by the Gifted Education Section of Education Bureau and the Hong Kong Association for Science and Mathematics Education, the team comprising Chu Tin Wing, Fang Carolyn Guo Xin, Kwok Hei To Charlotte, Yiu Tung Toby and Yuen Yee Ting Hayley was awarded the Champion, the Fung Hon Chu Education Trust Fund and the Best Presentation Award.
2. The team comprising Au Oi Ki Angela, Chung Hei Man, Tsang Evelyn Wai Ning, Chan Tsz Nam and Cheuk Nim Yan won the Silver Award in the CityU Science Patent Challenge 2023-24. The team received the full fee for the application of a Hong Kong Short-term Patent for their winning invention.
3. In the Energy Saving Championship Scheme 2023 (Competition for Students), the team comprising Tam Wai Chee, Tang Long Yan Valerie and So Hei Ching attained the Hanson Outstanding Award and the Outstanding Physical Model Award.
4. Yang Zhichu took part in the 1+1 Science Tip-Top Talent Scheme 2023/24, organised by the Hong Kong Federation of Youth Groups. She received a research funding of \$12,000 to conduct research under the mentorship of university professors over the course of the academic year.
5. In January 2024, Jiang Yolanda Pak Yin and So Chun Kiu participated in the 16th International Science Youth Forum 2024, organised by the Hwa Chong Institution, Singapore. This annual event provided a platform for academic and cultural exchange among scientifically-gifted students from different countries. They also had the privilege to attend master classes conducted by some Nobel laureates.
6. Six S3 girls took part in the International Junior Science Olympiad 2024 – Hong Kong Screening. Ma Yihan Helena captured the First Class Honours, while Chien Yanoch, Yiu Tung Toby, Yuen Yee Ting Hayley, Cheung Hoi Yin Ariel and Leung Hoi Shun captured the Second Class Honours. Our School was awarded Overall Third Runner-up.
7. In the International Physics Tournament 2024 – Hong Kong Final, the team comprising Li Xinjie, Or Yu Sze, Leung Tsz Kiu Amanda, Chui Cheuk Ying and Wong Ka Ying was the Second Runner-up.
8. In the China Young Physicists' Tournament 2024 (中國高中生青年物理學家學術交流會 2024), Leung Tsz Kiu Amanda, Ng Tung Alice and Or Yu Sze attained 二等獎. Ng Tung Alice also captured 最佳女生獎.
9. In the Senior Physics Challenge China Marathon 2024, Cheung Hoi Yin Ariel, Leung Hoi Shun, Leung Tsz Kiu Amanda, Or Yu Sze, Chan Tsz Nam and Xiao Jiaqi attained the Diamond Award.
10. In the British Physics Olympiad – Round 1, Jiang Yolanda Pak Yin captured Top Gold Award and Li Xinjie won the Silver Award.
11. In the Sing Yin Physics Olympiad 2024, Ching Helen and Leung Tsz Kiu Amanda were given the Merit Award.

12. In the Pan-Pearl River Delta and Chinese Elite Schools Physics Olympiad (Mechanics Test), Leung Hoi Shun and Ching Helen captured the Third Honour.
13. In the PolyU Physics Short Video Competition 2023, Ching Helen was the Champion in the Senior Secondary Division; the team comprising Tam Wai Chee, Tang Long Yan Valerie and Wang Yu Hui captured First Runner-up in the Junior Secondary Division; and the team comprising Chan Sum Yan, Cheung Hui Yu, Jin Siu Yau Nicole and Tong Mong Chi attained the Most-liked Video Award.
14. In the International Biology Olympiad – Hong Kong Contest 2023, Ho Wai Shum Emma attained the Silver Award, while Li Sze Wing Jennifer and Cheung Loria Hei Yue attained the Bronze Award.
15. In the Hong Kong Biology Literacy Award (2023/2024), So Chun Kiu and Wong Hin Lam were awarded the First Class Honours, Wong Wing Yin Audrey and Wong Tze Ching Andrea were awarded the Third Class Honours. Our School captured the Best School Award.
16. In the International Astronomy and Astrophysics Competition, Leung Tsz Kiu Amanda and Chan Tsz Nam captured the Silver Honour, while Or Yu Sze captured the Bronze Honour.
17. In the Hong Kong Secondary School Health Exhibition Presentation Competition 2023, organised by the Medical Society of the Chinese University of Hong Kong, the team comprising Au Cheuk Yi, Kum Ho Yee, Wong Hin Lam, Ng Si Ting, Li Sze Wing Jennifer and Jiang Yolanda Pak Yin attained the Gold Award.
18. In the Juvenile Horseshoe Crab Rearing Programme 2023-2024, the team comprising Shing Wai Yan, Lam Ching Wai, Lee Leticia June, Wong Ngo Ching Chloe and Ho Wai Shum Emma captured the Best Presentation Award.
19. In the Hong Kong Brain Bee Competition 2024, Leung Shun Wa achieved Distinction Performance.
20. In the “Sustainability & Elements” of HKASME-60 for 60th Anniversary of HKASME, Chong Tsz Huen Nicole won the Outstanding Award, while Tong Mong Chi and Wang Cindy Hing Yu attained the Merit Award.
21. In the PolyU SCIENCE Young Talents Competition, the team comprising Jiang Yolanda Pak Yin, So Chun Kiu and Wong Wing Yin Audrey attained the Merit Award.
22. In the 「Forensic Hunter」 香港學界鑑證比賽 2024, the team comprising Cheung Hui Yu, Kuk Man Dai Azaria, Lo How Ching Michelle and Lo Tsz Yau captured Second Runner-up in the Secondary School Division.
23. The team comprising Matthias Natalie Sophia, Fung King Ching Natalie, Cheung Hoi Yin Ariel, Ho Tsz Yan Antonia, So Hei Ching, Wang Cindy Hing Yu and Chau Pui Ki represented Hong Kong in the FIRST LEGO League Challenge World Festival held in April 2024 in Houston, U.S..
24. In the FIRST LEGO League Hong Kong Season 2023-2024, the team comprising Chau Pui Ki, Wang Cindy Hing Yu, So Hei Ching, Lin Ching Kiu, Mai Polly and So Tsz Yu Tiffany captured Champion – Innovation Project Award.
25. With the enthusiastic participation in the science-related events organised by Hong Kong Laureate Forum (HKLF) throughout the year, 21 girls attained the HKLF Science Explorer Award 2023/24. Among them, Chien Yanoch, Lam Lung, Liu Tsz Yu and Au Cheuk Yi attained the Gold Award.