

Noteworthy Practices

# APPLIED LEARNING IN STEM



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## Developing Applied Learning Programme in Chemical and Applied Sciences

Agnes oversees the school's Applied Learning Programme on Chemical and Applied Sciences (Fragrance). She looks into the professional development of her ALP team members by developing their pedagogical skills and conceptual knowledge so as to deliver the lesson packages they have created effectively.

The students were given opportunities to conduct hands-on experiments, including the extraction of essential oil from flowers and fruit peels and the formulation of their own fragrances. This helps them apply their knowledge of chemistry in the real world. In addition, students create innovative 3D models using CAD software for the 3D printing of containers to house their perfumes.



### IMPACT

The team has infused the use of Active Learning processes in the lessons to bring about engaged and deep learning. The positive impact towards learning can be seen from the improvement in students' attitude towards the learning of Science, Technology, Engineering, and Mathematics (STEM) as a result of their experiences in the programme.

The programme has gone from strength to strength since its inception. Students learn the basics of 3D printing, Micro:bits programming, concepts in perfumery and problem-solving skills using Design-Thinking processes. They get to apply their learning in external competitions and learning journeys to partner schools. Selected students even have the opportunity to participate in job-shadowing in partner schools during their vacation to experience life as a perfumer.

Overseas educators from UK and Hong Kong have requested to visit the school to learn more about the programme so that they can replicate the programme in their own institution. The programme has also been featured on several media platforms as an exemplar for other schools in their quest to inspire and prepare their students for a future in STEM. These platforms include Channel News Asia, 联合早报, and even 人民日报 from China.

