# Evaluation Report on the Use of One-off Grant for the Promotion of STEM Education (2017-2018)

## Programme

**Aim of the One-off Grant for the Promotion of STEM Education**

1. To organize STEM-related activities such as scientific and technological activities or competitions; and
2. To support students to participate in various STEM-related competitions and/or programmes.
3. To procure resources (e.g. teaching aids, consumables, learning and teaching resource materials) and/or upgrade some existing resources for the implementation of STEM-related activities including projects and competitions;

## Responsibility

1. School principal as the controller.
2. Program proposals by open nominations. Monitoring by Teacher i/c.:-

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|---|---|---|
| **One-off Grant for STEM** | 3D Scanning and modelling | Mr. Li K T |
| | Micro:bit related activities (including Rocket Car Competition) | Mr. Cheung C W<br>Ms. Law Y K |
| | 4D Frame models in Mathematics | Mr. Cheung C P |

## Implementation of One-off Grant for STEM 2017-2018

| Task Area | Details | Spent($) |
|---|---|---|
| **One-off Grant for STEM** | | |
| 3D Scanning and modelling | Installation of new laser cutting technology | $66,988.00 |
| Micro:bit related activities (including Rocket Car Competition) | Application of Micro-bit and participation in inter-schools competitions | $19,765.00 |
| 4D Frame models in Mathematics | Application of 4D Frame models | $14,360.00 |

Balance

| | One-off Grant for STEM |
|---|---|
| **Balance B/F** | -- |
| **Income** | $200,000.00 |
| **Expenditure** | $101,113.00 |
| **Surplus** | $98,887.00 |

Success Indicators (e.g. Benefits achieved, Assessment mechanism)

| Task Area | Details |
|---|---|
| **One-off Grant for STEM Education** | |
| 3D Scanning and modelling | To use the new laser cutting technology in making home-made models.<br>• Making models from different kinds of materials<br>• Designing and producing models to meet specific requirements.<br><br><u>Benefits Achieved</u><br><br>• Enhance new tools and technology in STEM development.<br>• Streamline the production process of models and parts.<br><br><u>Method of Evaluation</u><br><br>• Feedback from students and teachers-in-charge of the activity<br>• Evaluate the activities in meetings<br>• Observation by teacher-in-charge |

| Task Area | Details |
|---|---|
| **One-off Grant for STEM Education** | |
| Micro:bit related activities | Applying micro:bit in the science stations activities for F.2 students. They had to complete one of 3 micro:bit related activities in science station. A micro:bit related competition for them was organized during the science showbiz day.<br><br>Some students also formed teams and joined the inter-schools Rocket Car Competition. Participating teams learned about Newton's laws of motion, physics, engineering, streamline shape design, how rockets work and also teamwork in the competition.<br><br><u>Benefits Achieved</u><br><br>• Arousing their interest in science and technology<br>• Developing problem solving skills through micro:bit related activities<br>• 40 students joined the Rocket Car Competition and the participation was active.<br>• Students are initiated and encouraged to experiment with the car design and try their best to improve the performance of cars.<br>• They learned to use apps and micro:bit for better design of their cars and learned how to work better with their teammates.<br><br><u>Method of Evaluation</u><br><br>• Over 80% students of the involved form (F.2) participate in the science station activities;<br>• Feedback from students, teachers-in-charge of the activity;<br>• Students' performance in Science Showbiz Day;<br>• Evaluation by science teachers<br>• One team of our students enter the final round of the Rocket Car Competition in Hong Kong and placed the 4$^{th}$ in the competition. |

| Task Area | Details |
|---|---|
| **One-off Grant for STEM Education** | |
| 4D Frame models in Mathematics | To enhance students' understanding in three dimensional spaces and their creativity in problem solving, our school has introduced 4D Frame models to F.1 students. The grant was utilized as follows:<br>• Organizing a workshop to all F.1 students<br>• Supporting students to participate a 4D Frame competition<br>• Purchasing materials for teaching<br><br><u>Benefits Achieved</u><br><br>• Students found the activity interesting and their spatial thinking were shown to be improved.<br>• Positive feedback was received from students and teachers.<br>• Teachers-in-charge agreed that active participation was observed in the workshop.<br>• Students has won the second runner-up in Hong Kong 4D Frame Maths & Science Creativity Competition organized by The Hong Kong Federation of Youth Groups (HKFYG). They will represent Hong Kong to participate in the final competition in South Korea in October 2018<br><br><u>Method of Evaluation</u><br><br>• Students' performance on their work<br>• Feedback from students and Mathematics teachers<br>• Observation by teachers-in-charge of the workshop |