

Po Leung Kuk Lee Shing Pik College

One-off Grant to Secondary Schools for the Promotion of STEM Education for the 2017/18 academic year

Domain	Program	Duration	Budget	Anticipated Outcome	Successful Indicators	Method of Evaluation	Teacher-in-charge
I. Hardware Purchasing  A. Subject: Computer Literacy	<ul style="list-style-type: none"> <li>Procurement of 10 sets of LEGO EV3 robots for implementing the visual programming in S2 computer lessons</li> </ul>	14-16 lessons in the 2 <sup>nd</sup> term	\$49,800	<ul style="list-style-type: none"> <li>Students are able to control the LEGO EV3 robot to perform simple tasks designed by computer teachers.</li> </ul>	a. Over 80% of the relevant students complete the simple tasks mentioned above by controlling the LEGO EV3 robot.	Data will be collected by statistics and teachers' comments.	Subject Head of Computer Literacy (Mr. Chu C.P.)
	<ul style="list-style-type: none"> <li>Procurement of Arduino accessories for programming implemented in S3 after-school activities</li> </ul>	The whole academic year	\$10,000	<ul style="list-style-type: none"> <li>Participants are able to make self-designed PCB (printed circuit board) and Arduino sensors.</li> </ul>	a. Over 20 students participate in the activities. b. Over 80% of the participants complete the assigned tasks mentioned above.	Data will be collected by statistics and students' performances.	

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B. Subject: Biology	<ul style="list-style-type: none"> <li>Building up the Aquaponics for implementing a tailor-made program for S5 Biology students</li> </ul>	Second term of the academic year	\$5,000	<ul style="list-style-type: none"> <li>The knowledge of ecology learnt can be applied to real situation through the Aquaponics.</li> <li>The skill in data analysis by graphical method can be enhanced.</li> </ul>	a. Over 80% of students indicate that the program can nourish their knowledge in ecology. b. Over 80% of students indicate that the program helps enhance their skill in data analysis by graphical method.	Data will be collected by students' performances.	Subject Head of Biology (Mr. Tang Y.M.)
C. Subject: Physics	<ul style="list-style-type: none"> <li>Procurement of a high-speed camera and models of helicopters for implementing STEM investigative study in S4 Physics</li> </ul>	The whole academic year	\$6,000	<ul style="list-style-type: none"> <li>Reports of the investigative study can be prepared by students.</li> </ul>	a. Over 80% of students indicate that the program can enhance their knowledge and/or skills in carrying out an investigative study with learner-centred approach.	Data will be collected by students' performances.	Subject Head of Physics (Mr. Chow C.F.)

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D. Subject: Integrated Science	<ul style="list-style-type: none"> <li>Procurement of materials, chemicals and equipment for organizing STEM activities in School</li> </ul>	Second term of the academic year	\$5,000	<ul style="list-style-type: none"> <li>Students' interests in STEM can be aroused.</li> <li>Potential students can be identified for further development.</li> </ul>	a. Over 80% of the participants indicate the activities can enhance their knowledge and/or skill in relevant discipline of STEM.	Data will be collected by students' comments.	Subject Head of Integrated Science (Mr. Chin C.W.)
II. Activities and/or Competitions A. Science Department	<ul style="list-style-type: none"> <li>Application for the courses concerning relevant discipline of STEM for the selected students</li> </ul>	Second term of the academic year	\$40,000	<ul style="list-style-type: none"> <li>Sharing of the new knowledge and/or skills learnt to schoolmates after the courses.</li> </ul>	a. Students complete the courses with at least 85% of attendance rate shown in the record of learning. b. Over 80% of the selected students indicate that the courses help enhance their knowledge and/or skill in relevant discipline of STEM.	Data will be collected by students' comments.	Deputy Department Head of Science (Mr. Chin C.W.)

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B. Science Department	<ul style="list-style-type: none"> <li>Application fee for workshop and/or competitions concerning relevant discipline of STEM for the selected students</li> </ul>	Appropriate time of the whole academic year	\$3,000	<ul style="list-style-type: none"> <li>Sharing of the experience in participating in the competition with schoolmates.</li> </ul>	a. Over 80% of the selected students indicate that the programs help enhance their knowledge and/or skill in the relevant discipline of STEM.	Data will be collected by students' comments.	Deputy Department Head of Science (Mr. Chin C.W.)
	<ul style="list-style-type: none"> <li>Booking coach for travelling to the venue of competitions</li> </ul>	Appropriate time of the whole academic year	\$6,000	<ul style="list-style-type: none"> <li>Students can carry massive prepared materials for the competitions.</li> </ul>	a. Over 80% of the selected students indicate that prepared materials for the competition can be transported safely.	Data will be collected by students' comments.	



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C. Mathematics Department	<ul style="list-style-type: none"> <li>Procurement of Mathematical Olympiad enhancement course from an external course provider for the selected students</li> </ul>	10 lessons in the first term of the academic year	\$4,000	<ul style="list-style-type: none"> <li>Students' potentials with the relevant intelligence can be explored and further enriched.</li> <li>Students can show a better performance during the Mathematical Olympiad competition.</li> </ul>	<ol style="list-style-type: none"> <li>Students complete the courses with at least 85% of attendance rate shown in the record of learning.</li> <li>Over 80% of the selected students indicate that the course helps enhance their performances during the competition.</li> </ol>	Data will be collected by students' comments.	Subject Head of Mathematics (Mr. Cheng W.M.)

The total grant of the One-off Grant to Secondary Schools for the Promotion of STEM Education for 2017-2019 is HK\$200,000. We plan to spend HK\$128,800 anticipated with the above plan for 2017-18.