

Quality Education Fund
The Dedicated Funding Programme for Publicly-funded Schools

Project Number:	2022/0421 (revised proposal)
Name of School:	聖馬可中學 St. Mark's School
Project Title:	地理探究學習 Enquiry Learning in Geography
Beneficiaries:	Secondary
Estimated Number of Direct Beneficiaries:	Student:360 (F1-F6) Teacher:4 Parent:0 Others (Please specify): 0

1. Project Needs

1.1 Project aim(s)

The project aims at developing school-based Junior secondary Geography education, arousing students' interest in learning Geography and enhancing their subject-based skills like fieldwork skills. Moreover, the project will enhance teachers' professional capacity in incorporating subject-based skills through the teachers' development programmes.

1.2 School-based Innovative element(s)

School-based interactive elements are incorporated into this project which facilitates enquiry learning in geographical studies. This project consists of both real time and virtual fieldwork experience for Geography students. They will also learn how to conduct fieldwork investigations to obtain first-hand information and data for their enquiries. Moreover, students will have ample opportunities to develop their abilities to read and interpret verbal, visual and digital media, including different types of maps, as well as various kinds of photographic images and digital data (e.g. GIS). They will be equipped with the ability to identify and ask questions from a geographical perspective, to locate and extract appropriate information from a variety of sources relevant to the enquiry, to present and organise information and data in appropriate formats, and to interpret information and data for making inferences and drawing conclusions.

1.3 Meeting with school-based/ students' needs

Item: Relevance to the school development plan of this cycle/major concern

One of the focuses of the school's three-year development plan (2022-2025) is to enhance learning and teaching effectiveness for academic excellence. We would like to actualize the focus into our subject by equipping them with appropriate learning skills and to strengthen their confidence in learning Geography. Fieldwork is a distinctive attribute of geography and has a long tradition as an established component of geographical education. The Geography curriculum has emphasis on fieldwork skills. According to the Geography C&A Guide, 12% of lesson time is assigned for fieldwork (including spatial data enquiry). This arrangement ensures that sufficient curriculum time will be allocated for carrying out geographical enquiry both inside and outside the classroom for NSS Geography students. In addition, every geography student of F1-3 should be entitled to have a reasonable amount of fieldwork experience throughout their three-year junior secondary studies. In addition to knowledge acquisition and application, different subject-specific skills

2. Project Feasibility

2.1 Key concept(s)/ rationale(s) of the project

Item: Reference the Education Bureau curriculum documents/guidelines

The rationale of this project comes from the update of Assessment Framework for HKDSE Geography released by the HKEAA. The main point is that a compulsory fieldwork-based question (15%) will be set in the HKDSE Geography Examination. With reference to the curriculum documents, PSHE KLA Geography Curriculum Guide (S1-S3), 2011 and Personal, Social and Humanities Education Key Learning Area Geography Curriculum and Assessment Guide

(Secondary 4 - 6), updated in July 2022, we would like refine the existing school based curriculum in both junior and senior geography.

Item: Reference pedagogical theories/strategies

Job, D., Day, C., & Smyth, T. (1999). Beyond the bikesheds—Fresh approaches to fieldwork in the school locality. Sheffield: The Geographical Association.

2.2 School's readiness

Item: Relevant school experience

As part of our STEM project, our ICT students have set up a sandbox at school. The Geography Department has organized more than ten AR sandbox workshops in the past five years. We have rich experience in organising relevant learning activities. According to our previous experience, students are interested in hands-on learning activities which can arouse their motivation in learning and exploring. Through these learning activities, students' creativity, collaboration skills and problem-solving skills can be enhanced. In order to further implement more interactive inquiry learning in Geography, our school plans to incorporate both virtual and real time fieldwork experiences education into junior secondary curriculum so as to provide valuable learning opportunities for all junior and senior form secondary students.

2.3 Principal and teachers' involvement

School Staff: Principal

Duties: Formulate plans, Monitor and supervise, Coordinate / collaborate, Process funding

School Staff: Vice principal

Duties: Formulate plans, Monitor and supervise, Coordinate / collaborate, Process funding

School Staff: Curriculum leader

Duties: Formulate plans, Coordinate / collaborate, Process funding, Conduct / participate in activities

School Staff: Subject panel head

Duties: Formulate plans, Coordinate / collaborate, Plan curriculum / activities, Process funding, Conduct / participate in activities, Consolidate learning and teaching materials

School Staff: Project leader

Duties: Formulate plans, Coordinate / collaborate, Plan curriculum / activities, Process funding, Conduct / participate in activities, Consolidate learning and teaching materials

School Staff: Subject teachers

Duties: Formulate plans, Plan curriculum / activities, Conduct / participate in activities, Consolidate learning and teaching materials

2.4 Project period

Project Start Date and End Date: from 01/2026 - 12/2027

The project lasts for 2 year(s) and 0 month(s).

2.5 Details of project activities

a. Project implementation measures

Activity 1: AR Sandbox demonstration to students

Implementation Period: 09/2026-12/2027

<u>Key learning stages and key learning areas/subjects/learning elements</u>	<u>Content</u>	<u>Number of sessions</u>
PSHE (Geography) - F.2: Natural hazard and relief landforms - AR simulation activity during lesson	<i>Conduct the learning activities:</i> To arrange the following demonstration for F2 students through incorporating the learning of relief features by using the AR Sandbox into the curriculum	5 (35 minutes for each session)

Number of school personnel and/or appointed project staff involved and respective duties: 3

- To be taught by school teachers with relevant knowledge and experience

Expected outcomes:

- Students can learn about the relief landforms

Activity 2: AR Sandbox and VR workshops

Implementation Period: 01/2026-12/2027

<u>Key learning stages and key learning areas/subjects/learning elements</u>	<u>Content</u>	<u>Number of sessions</u>
PSHE (Geography) • F3: Water in trouble (Flooding) • Simulation workshop to learn about river landforms & flooding	<i>Conduct the learning activities:</i> To arrange simulation workshop for F3 students by using the AR Sandbox and VR materials. To arrange in-class competition for students to have hand-on experience in making the landforms by using the Sandbox. The workshop will be divided into two parts, namely the hand-on experience in making the landforms by using the AR Sandbox and the VR immerse experience to learn these landforms using the VR headset.	5 sessions for F.3 (35 minutes for each session)

Number of school personnel and/or appointed project staff involved and respective duties: 3

- To be taught by school teachers with relevant knowledge and experience

Expected outcomes:

- Students can learn about the abstract relief landforms through the AR Sandbox
- Students are able to identify relief landforms in their map tests

Activity 3: Virtual Field trip and field trips

Implementation Period: 01/2026-12/2027

<u>Key learning stages and key learning areas/subjects/learning elements</u>	<u>Content</u>	<u>Number of sessions</u>
PSHE (Geography) The virtual field trips conducted in classrooms will provide some basic concepts and the skills to use the equipment. Making use of EduVenture VR platforms, students are able to immerse themselves into environment of the field trip. After students have mastered the skills, they can collect data in the field sites for promoting enquiry field studies.		• Virtual field trip (via EduVenture VR platform or similar kind) F.1 :1 session (35 minutes for each session) F.2: 1 session (35 minutes for each session) F4: 1 session for each form (35 minutes for each session)

● F.1 & F.4: Sustainable city (via EduVenture VR platform or similar kind) - Virtual fieldtrip to Wan Chai - Field trip to Wan Chai to learn about different urban renewal strategies ● F.2: Landslides (via EduVenture VR platform or similar kind) Virtual field trip to Wan Chai to learn about the slope management strategies ● F.5: Dynamic earth (HK Geo-park field trip) (via EduVenture VR platform or similar kind) - Virtual field trip to Sai Kung Geo-park - Field trip to Sai Kung Geo-park		F.5 1 session (35 minutes for each session) After the Virtual field trip, field trips are conducted for F.1, 2, 4 and 5 students. ● Field trips F.1 & F.2: Half day only (F.1 and F.2 students will go to Wan Chai) - F.4 & F.5: One day (F.4 students will go to Wan Chai while F.5 students will go to Sai Kung)
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Number of school personnel and/or appointed project staff involved and respective duties: 3

- To be taught by school teachers with relevant knowledge and experience

Expected outcomes:

- Students are able to learn geographical concepts through virtual field trips as their pre-trip learning experience to get familiar with the checkpoints and data collection methods
- Students are able to apply fieldwork skills in their exams

Activity 4: Weather of the Day

Implementation Period: 09/2026-12/2027

<u>Key learning stages and key learning areas/subjects/learning elements</u>	<u>Content</u>	<u>Number of sessions</u>
PSHE (Geography) Inquiry learning required students to set hypothesis for testing. It is important for students to learn about how to use equipment and tools to collect data and analyze the data to test their hypothesis on weather related inquiry study. Students will be familiar with the uses of tools in school before going out for further investigation in the field. ● F.5 Weather & Climate Weather elements measurement and interpretation ● F.2 Climate Change Basic weather elements and monsoons, typhoon in Hong Kong	<i>Conduct the learning activities:</i> F.4 - F.6 Geography students will make use of the fieldwork equipment to carry out weather forecast of the day after they have learnt how to use the equipment in the lessons. They are asked to keep record of their measurements in the digital weather board / weather board. Weather Quizzes and weather projects will be conducted by using the data collected. Students will present their findings in the inquiry-learning project.	5 minutes Every day for weather forecast 2 sessions (35 minutes for each session for the inquiry project and presentation) 5 minutes (Online weather Quizzes)

Number of school personnel and/or appointed project staff involved and respective duties: 2

- To be taught by school teachers with relevant knowledge and experience

Expected outcomes:

- Students are able to learn fieldwork skills and apply it in daily life
- Students are able to set hypothesis in inquiry based learning and analyze the data collected
- Students are able to present their data and draw conclusions

Activity 5: Enquiry based lesson activities for different levels

Implementation Period: 09/2026-12/2027

<u>Key learning stages and key learning areas/subjects/learning elements</u>	<u>Content</u>	<u>Number of sessions</u>
PSHE (Geography) It is crucial to motivate students to learn during lessons. Enquiry based learning tasks are conducted to consolidate their geographical knowledge through some hand-on experience in the lesson rather than direct instruction. Besides, spatial concepts should be emphasized in learning Geography. With the help of spatial data provided by Common Spatial Data Infrastructure (CSDI) which is an one-stop data supermarket opening up and providing multi-source of spatial data in Hong Kong, students will learn how to visualize data and make use of the spatial data for enquiry based learning to create a more liveable smart city.	<i>Conduct the learning activities:</i> <u>F.4 and F.5 students:</u> There are 5 main stages in conducting enquiry based fieldwork. They are planning research questions and hypothesis, data collection, data analysis, data interpretation and conclusion and evaluation. The knowledge and skills of these 5 stages are incorporated in our enquiry based lesson activities. <u>F.1 students:</u> To arrange land use planning activities to students. Students are asked to identify some urban problems in selected site with reference to the map of Wan Chai. They are asked to draw land use map with sustainable development concepts. They can make use of Google Earth and other software to present their layout plan. <u>F.3 students</u> Teachers will make use of spatial data to demonstrate the distribution of water problems in China. Students are asked to design a poster to explain the measures to tackle water problems in China. This activity will equip students with data analyze and interpretation skills <u>F.4 students</u> They will learn about how to use equipment with virtual reality tools. After learning the data collection method, they will learn the advantages as well as disadvantages	F1: 1 session (35 minutes) F3: 1 session (35 minutes) F.4 and F.5 (A total of 6 sessions, 35 minutes for each session) Details are as follows: 1 session for Storymap workshop for F.4 and F.5 respectively (A total of 2 sessions) 2 sessions for enquiry based learning based on spatial data for F.4 and F.5 respectively (A total of total 4 sessions)

	of this equipment in their discussion, which is one of the important skills in DSE Fieldwork based questions. Furthermore, they have to use these equipment to collect data in the field site. <u>F.5 students:</u> To arrange rock classification exercise for F.5 students. It is important for students to make use of the real rock set in the geography room to learn about rock classification. Students will conduct rock test with measurement and observation. They will be able to identify the type of rock and summarize their characteristics. Finally yet importantly, students are able to produce a rock key for their revision. After they have learnt the characteristics of rock, they can interpret their findings in the field site. To arrange workshop on using Arcgis or Storymap for students to acquire the skills in using these software or apps for Senior form students so that they can test their hypothesis with secondary spatial data. To conduct enquiry based learning project for students based on their hypothesis and the spatial data in the CSDI or data from other sources.	
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Number of school personnel and/or appointed project staff involved and respective duties: 3

- To be taught by school teachers with relevant knowledge and experience

Expected outcomes:

- Students are able to learn about the geographical features e.g. characteristics of rocks
- Students are able to produce a rock key for revision
- Students are able to master some basic skills in using Storymap or Arcgis to present the spatial data.
- Students are able to understand the spatial data

Activity 6: Reading activities

Implementation Period: 09/2026-12/2027

<u>Key learning stages and key learning areas/subjects/learning elements</u>	<u>Content</u>	<u>Number of sessions</u>
PSHE (Geography)	<i>Conduct the learning activities:</i>	5 sessions (30 minutes in each session)

- Promote reading in the reading corner - Conduct book sharing in the reading corner	To promote reading in Geography for F1-F6 students in the reading concern of the Geography room	
<u>Number of school personnel and/or appointed project staff involved and respective duties: 2</u> - To be taught by school teachers with relevant knowledge and experience <u>Expected outcomes:</u> - Students are able to develop reading habits		

b. Teacher training (if applicable)

Activity 1: AR Sandbox and EduVenture VR training <u>Implementation Period: 03/2026-12/2026</u> <u>Content:</u> AR Sandbox training workshop - Conduct teacher training workshop (including planning of education programme, designing learning activities and assessment, as well as training on relevant skills) - Review the existing learning content and develop school-based education programme for both junior and secondary students <u>Number of sessions:</u> 2 sessions (40 minutes for each session) <u>Teacher training conducted by school personnel/external instructor(s):</u> - Conducted by school staff to other Geography teachers <u>Expected outcomes:</u> - To learn about skills to design and plan the lesson using AR Sandbox

c. Other measures and activities (if applicable)

N/A

2.6 Budget

a. Staff cost

Post title	Full-time equivalent (%)	Appointment Requirements (including (if applicable) relevant qualification and experience)	Monthly salary	Mandatory Provident Fund	Mandatory Provident Fund Employment period months	Amount	Justifications (including (if applicable) job duties of the proposed staff, the reason for the need of additional staff, justifications for employing staff with higher salary, etc.)
Sub-total on staff cost:						0	

b. Service cost

Item	Service details	Unit cost	Quantity	Unit	Amount (\$)	Justifications
Sub-total on staff cost:					0	

c. Equipment cost

Items	Specifications	Unit cost	Quantity	Unit	Amount	Justification
Notebook computers	Notebooks with the following specifications or similar grade: Size : 15.6” Operation System: Windows 10 Storage: 512 GB PCIe M.2 SSD Memory: 8GB DDR4/ Onboard Camera: HD Camera Ports: 802.11ax+ Bluetooth 5.0 x USB 3.2/USB 3.2 Type C	\$5,700	6	HKD	\$34,200	While conducting lessons and discussion during lessons: • Notebook computers are installed with ArcGIS. Storymap and Google Earth etc for students to make use of spatial data to visualize their learning outcome. They can learn how to use these software and applications in the workshop. • Notebook computer can help students to equipped with the basic knowledge of field site before going to the field site by having various virtual tours. • Students can learn data analysis and graphical presentation with an aid of notebook computers. • Notebook computers are light and portable, allowing students to have access to their educational materials and resources wherever they go. • Notebook computer facilitate collaborative learning by allowing students to work together on group projects share files and resources, and collaborate in real-time using cloud-based applications. This fosters teamwork, communication, and problem-solving skills. • Notebook computers are used for developing learning and teaching recourses and fostering students’ self-directed learning.
Projector	<i>Projector with the following specifications or similar grade:</i> Dimension (W*H*D) 380*127*263 mm Resolution 3840*2160 Pixel Max Brightness: 2000 ANSI Aspect Ratio: 30000:1 Projector type: LED	\$8,300	1	HKD	\$8,300	While conducting lessons, the projector can be paired with interactive whiteboards or touchscreen, enabling teachers to interact with the projected content directly. This promotes active student participation, collaboration

						and practical learning, as students can also interact with the content and contributes to discussions. Students are encouraged to demonstrate their learning results such as the land use planning layout, the their Storymap and other GIS map with the aid of the projector. This can improve their presentation skills and facilitate peer learning among students e.g. weather map presentation, land use planning map presentation
AR Sandbox	ARGEO TMAR Sandbox or similar grade	\$50,000	1	HKD	50,000	The AR Sandbox is important in helping students to visualize the abstract concepts. They will learn these concepts in the lesson e.g contour lines, gradient and get familiar with them before going out to conduct enquiry based learning. This can also help them to set hypothesis for enquiry based study. Map reading skills like identification of landforms, measuring gradients, cross section are introduced with an aid of AR Sandbox. When conducting AR Sandbox demonstration and workshops: • The AR Sandbox provides a hands-on learning experience for students, fostering active learning and engagement. Students can manipulate the sand to create different landforms, and instantly see the effects of their actions in real-time. After students learn about the landforms, they will learn about the causes of landslides. After that, they will go to the field site to observe different measures to tackle the landslides in Hong Kong. • Students can receive instant feedback as they interact with the AR Sandbox.

						AR Sandbox encourages collaboration among students. They can discuss and work together to create various landscapes, fostering teamwork, communication and problem solving skills										
Interactive White board	<i>Interactive White board with the following specifications or similar grade:</i> Dimension: 75”/87” Resolution: 3840x2160 pixels 300 cd/m2 brightness Android apps Touch Panel with wall mount installation	25,000	1	HKD	25,000	- For doing the rock classification, students can make use of the interactive white board to complete the rock test and produce their rock key. It also promotes interaction with other students. Students can improve their presentation skills and facilitate discussion with the aid of interactive white board when they are presenting their inquiry based learning outcome. - Install interactive whiteboard in order to facilitate teachers’ teaching and students’ group discussion and presentation. - The interactive whiteboard can facilitate students to learn data presentation in enquiry based study.										
VR Headsets & system	<i>VR Headsets/ Virtual Reality System with the following specifications or similar grade:</i> <table><tr><td>Dimension</td><td>16.3x9.7x9.9</td></tr><tr><td>OS</td><td>Android</td></tr><tr><td>Field of View</td><td>90 degrees</td></tr><tr><td>Connector type</td><td>Optical</td></tr><tr><td>Platform</td><td>IOS, Android</td></tr></table>	Dimension	16.3x9.7x9.9	OS	Android	Field of View	90 degrees	Connector type	Optical	Platform	IOS, Android	3,000	1	HKD	3,000	Virtual tours will be arranged for students in campus for students to learn about the field sites and get familiar with their checkpoint tasks. They can also learn how to use the equipment virtually in the lesson. Students will be asked to conduct data collection with the equipment in the field site. The virtual tours will help them to get familiar with the equipment, reduce the errors and increase the reliability of the data collected in the field site, especially in the F.4 to F.6 fieldwork. It can improve the accuracy of the data collected. While conducting virtual field trip.
Dimension	16.3x9.7x9.9															
OS	Android															
Field of View	90 degrees															
Connector type	Optical															
Platform	IOS, Android															

						• VR technology provides a more immersive students to explore and experience virtual environments that are difficult or impossible to visit in real life. This can greatly enhance their understanding and retention of complex concepts. • While physical field trip can be costly, VR headsets offer a cost-effective alternative. With properly designed VR content, teachers can provide students with valuable learning experiences without incurring additional expenses.
GIS software and license	1. ArcGIS Online Creator (ArcGIS for student Use) [ArcGIS StoryMaps is an Apps included in the online Creator package]	1,000	10	HKD	10,000	• It is important to teach student how to make use spatial data in geographical enquiry learning. With the software provided, they can learn its operation and download the data from CSDI to conduct their enquiry based study. • The GIS software will be installed in the notebook computer inside the geography room. • This can help students to learn data interpretation and making conclusion in enquiry based learning. • When promoting students to join GIS competitions and joining GIS workshops, the GIS software can allows students to understand the spatial relationships and data patterns. • It helps develop critical thinking skills by enabling students to observe, analyze and interpret data in a geographical context. • It can also facilitate fieldwork activities and data analysis and processing.

VR Presenter	VR Presenter or similar grade: 1. VR Presentation Software 2.VR wall VR Projection for group immersion: VR LED Wall/ Single Wall / Corner Projection/ Multi-Sided & Extended	100,000	1 1	HKD	100,000	VR presenter is the use of computer modeling and simulation that enables a person to interact with an artificial three-dimensional (3-D) visual or other sensory environment. When conducting enquiry based lesson activities with F.1 students, it is also important for them to learn abstract concepts and visualization when they plan a city. VR Presenter can provide better visualization to students with 3D models and interactive layout for presenting their learning outcome. This can promote their skills to visualize data and image. After that, they can make use geographical concepts to explain their ideas. This can facilitate their data interpretation and presentation skills in enquiry based learning. While conducting Virtual Field trips, • VR presenter provide an immersive learning experience that can engage and captivate students' attention. • It allows them to step into different virtual environments and interact with 3D objects, which deepens their understanding and retention of information. • Studies have shown that VR can significantly improve knowledge retention compare to traditional classroom methods. The immerse and interactivity of VR presentations engage multiple senses, leading to better recall and understanding of educational content. • It can facilitate teachers' teaching and students' group discussion and presentation
Sub-total on equipment cost :					HK\$230,500	

d. Works cost

Item	Works details	Amount	Justification
Removal of existing items	Preparation work e.g. removal of original setting. For example, lights, floor, fans air conditioners and door for renovation: ● 工程期間清理現場垃圾及裝修廢料 ● 完工後一般清潔服務 ● 清拆及清走以下項目： ➢ 全場吊燈 ➢ 升高地台連膠地板 ➢ 入口掩門連門框 ➢ 活動傢俬 ➢ 天花吊光管，風扇及掛牆冷氣	50,000	It is important to provide a favourable learning environment for conducting enquiry based learning such as data presentation and evaluation in enquiry based study. Removing the existing items will provide more rooms for new settings.
Lighting, power Audio system	Relocate light and power sockets and improve audio system (1) 入口及教師枱位置原有蘇位,Lan 位或燈掣等改位 (2) 新造 13Amp 單蘇位 (鐵喉) (3) 新造 13Amp 仔蘇位 (鐵喉) (4) 新造燈線位 (鐵喉) (5) 新造 HDMI 位 ● Wireless microphone system ● Audio interface ● Classroom sound system with wall cabinet speakers for schools	105,000	● To promote students' presentation skills, they are asked to present their enquiry based learning results. With a better audio system, students can make use of the Geography Room for data presentation in enquiry based learning. ● It is becoming a trend to have more flexible room setting to cater for different uses. The newly renovated room will facilitate more self-directed learning e.g. fieldwork corner, reading corner and rock/ map corner for students to conduct their learning activities. Therefore, it is important to provide crucial renovation e.g. audio system in different corner for learning purposes. ● The audio system will help students to present their data collection after analyzing the data collected in the field site and facilitate inquiry learning.
Floor, wall and ceiling refurbishment	Refurbish the floor and the wall, door, ceiling. Door: ● 新造實芯單掩門連玻璃及門框 ● 全場天花執補及翻油 (包括陣位及喉管) Wall: ● 見光位置執補及翻油 (包括喉管) ● 入口位置牆身新造實木條子裝飾 ● 走廊位置新造木殼圍身板連不鏽鋼腳線,	210,000	● It is important to provide a favourable learning environment for conducting enquiry based learning such as data presentation and evaluation in enquiry based study. It is advised to refurbish the floor and the wall. ● It is becoming a trend to have more flexible room

	Floor: ● 原有地台用膠地板 ● 見光位置新造地腳線 Ceiling: ● 全場天花執補及翻油 (包括陣位及喉管) ● 入口位置新造木夾板裝飾格仔天花, 面貼防火膠板連封邊條 ($\pm 11000L \times 2800D \times 750H$) Install a glass wall for showcasing students' work (2500W*700D*1100H)		setting to cater for different uses. The newly renovated room will facilitate more self-directed learning e.g. fieldwork corner, reading corner and rock/ map corner for students to conduct their learning activities. Therefore, it is important to provide crucial renovation for learning purposes.
Purchase of furniture	(i) Cabinets & cupboards New cupboards to provide storage space for ● Fieldwork equipment (1 piece) (5500W*600D*900H) or similar dimension ● Maps (1 piece) (2800W*500D*2300H) or similar dimension ● Relief models (1 piece) (2100W*500D*2300H) or similar dimension ● Rock specimen (1 piece) (3500W*500D*2300H) or similar dimension ● Reference book/ book shelves (2500W*700D*1100H) or similar dimension (ii) Teachers' table (1600L*1600L*750H) or similar dimension (iii) Students' table and desks Purchase new furniture e.g. 20 movable learning tables and 35 chairs.	215,000	● To facilitate enquiry based learning of students, the setting will be arranged more flexible with the purchase of new furniture. Students will have more opportunities to improve their inquiry based skills by setting their own hypothesis and then test their hypothesis by group discussion and hand-on experience and present their ideas. ● The setting of the room includes tables and chairs that are flexible to facilitate discussion as well as lecturing. ● The field work equipment and cabinet will help students to get familiar with them before the field trip so as to increase the reliability of the data collected. ● The maps are basic element in equipping students with basic map reading skills before they conduct enquiry based learning. ● All the field trip equipment e.g measuring tape, ranging pole, clinometers, hydrometers, light meter are stored in the Geography Room, students need to get familiar with their uses and limitation before going out to the field site for measurement. ● It is becoming a trend to have more flexible room setting to cater for different uses. The newly renovated room will facilitate more self-directed learning e.g.

			fieldwork corner, reading corner and rock/ map corner for students to conduct their learning activities. Therefore, it is important to provide crucial furniture for different purposes. Conduct lessons and fieldwork, • The boards are used for storage of equipment and tools for teaching and learning of geographical concepts. • To tailor make half-height cabinet, full-height cabinet and a set of cupboards for storing and showcasing students' work. • To facilitate learning and teaching
Air conditioners	Install two air conditioners	31,500	To provide the environment for having lessons so that it can facilitate collaborative learning inside the Geography Room. They will present their learning outcome inside the room. The existing Geography Room has three air conditioners. After renovation, a flexible partition will be installed and the two newly installed air conditioners can regulate the temperature, air quality and humidity inside the room for students to have discussion or reading books. It is becoming a trend to have more flexible room setting to cater for different uses. The newly renovated room will facilitate more self-directed learning e.g. fieldwork corner, reading corner and rock/ map corner for students to conduct their learning activities.
Sub-total on works cost :			HK\$611,500

e. General expenses

Item (Please specify the quantity or frequency) (including (if applicable) teaching aid, activity supplies, printing teaching materials, etc.)	Amount	Justification
Miscellaneous (Printing and photocopying materials)	HK\$5,019	To facilitate the design of teaching materials.
Sub-total on general expenses :	HK\$5,019	

f. Contingency

Item	Amount (Round down to the nearest integer)
Works contingency (Total works cost x 10%)	HK\$61,150
General contingency ⁵ ((Total service cost + Total equipment cost + Total general expenses) x 3%)	HK\$4,031
Sub-total on contingency :	HK\$65,181

g. Audit fee

	Amount (\$)
Sub-total on audit fee :	HK\$5,000
Total amount of funding sought :	HK\$917,200

3. Expected Project Outcomes

3.1 Deliverables/ outcomes and positive impact on the school's development

Item: Lesson plans
Item: Resource package Learning and teaching resources, including Ed Venture VR learning materials, AR Sandbox Lesson plan and learning package will be developed.
Item: Students' work Students' work on this project will be collected
Item: Enhanced learning atmosphere
Item: Development of students' positive values The project will help the school plan and develop geography education systematically and nurture students to be self-directed learners through the establishment of the interactive geography room, curriculum development and teachers' development programmes.
Item: Strengthened teachers' capabilities in curriculum design and teaching

3.2 Evaluation

Evaluation Method: Lesson/activity observation Success criteria: Feedback from subject teachers and other teachers after the lesson observation.
Evaluation Method: Questionnaire Success criteria:

- The effectiveness of the programme for both junior and senior secondary students (success criteria: 80% of the teachers and students agree that the project helps the school promote geographical learning)
- To arouse students' learning interest (success criteria: 80% of the teachers and students agree that the project helps arouse students' learning interest in geography)
- To arouse students' creativity, collaboration and problem-solving skills (success criteria : 80% of the teachers and students agree that the project can help enhance students' creativity, collaboration and problem-solving skills)
- To enhance teachers' professional capacity (80% of the teachers agree that the project can help enhance their confidence in teaching geography)

3.3 Sustainability of the project (only applicable to applications with total funding sought **exceeding \$200,000**)

- The curriculum will continue to be implemented and enhanced after the completion of the project.
- The project will be extended to other classes/levels/subjects.
- The relevant facilities and equipment will be properly used for learning and teaching activities after the completion of the project.
- Sharing sessions through different teacher professional exchange activities and networks will be organised for transfer of successful experience.

3.4 Dissemination (only applicable to applications with total funding sought **exceeding \$200,000**)

Item: Seminar/sharing session

Teachers' sharing session will be conducted in the Pedagogy Team and Staff Development Day

Item: Learning circle

Articulate learning cycle in the Panel

Item: Workshop

Conduct workshops in the school Open Day for the public including parents, primary school students

Item: Lesson demonstration

Incite other teachers to join the lesson observation of this project

When writing this proposal, did the school refer to the sample proposal/project(s) approved with funding support at the Quality Education Fund (QEF) website?

Yes

Relevant sample proposal number: S07

Approved project number: 2019/0677

4. Asset Usage Plan

Item	Unit cost (HK\$)	Quantity	Unit	Amount (HK\$)	Asset Usage Plan
Notebook computers	\$5,700	6	HKD	\$34,200	After the project period, the equipment will continue to be deployed to support the ongoing learning and teaching activities at our school.
Projector	\$8,300	1	HKD	\$8,300	
AR Sandbox	\$50,000	1	HKD	\$50,000	
Interactive White board	\$25,000	1	HKD	\$25,000	
VR Headsets & system	\$3,000	1	HKD	\$3,000	
GIS software and license	\$1,000	10	HKD	\$10,000	
VR Presenter	\$100,000		HKD	\$100,000	
1. VR Presentation Software		1			
2.VR wall		1			

5. Report Submission Schedule

The school commits to submit proper reports in strict accordance with the following schedule:

Project Management (Should be submitted via the “Electronic Project Management System” (EPMS))		Financial Management (Hard copy together with supporting documents should be submitted to the QEF Secretariat by mail or in person)	
Type of report and reporting period	Report due on	Type of report and reporting period	Report due on
Progress Report 01/01/2026 - 31/12/2026	31/01/2027	/	/
Final Report 01/01/2026 - 31/12/2027	31/03/2028	Final Financial Report 01/01/2026 - 31/12/2027	31/03/2028

6. Declaration

1. Our school confirms that the renovation of the Geography Room (Room 410) consists of non-structural works only, without any alterations to school premises (including structural alteration and conversion, change of room use, etc.)
2. Our school ensures that the expenditure items funded by the QEF is one-off. Our school is required to bear the recurrent expenditure incurred, including maintenance costs, daily operating costs, etc. and the possible consequences that may arise.
3. Our school ensures that all procurement of goods and services is conducted on an open, fair and competitive basis with measures taken to avoid conflict of interests in the procurement process.
4. Our school ensures that the equipment is put to good use to enhance learning and teaching effectiveness and maintain a high utilisation rate.
5. Our school ensures that the virtual learning activities will not replace students' hands-on enquiry-based learning activities.
6. Our school ensures that the learning and teaching materials to be developed meet students' learning needs, levels, age and abilities. Moreover, the content and information should be correct, complete, objective and impartial.
7. Our school confirms that the copyrights of the deliverables/ materials be vested with the QEF. Any reproduction, adaptation, distribution, dissemination or making available of the deliverables to the public by the service provider(s) for commercial purposes is strictly prohibited.
8. Our school will follow the relevant regulations and procedures in carrying out the project and pay particular attention to the loading problem arising from the installation of the interactive whiteboards. If necessary, our school should seek professional advice from an authorised person. Our school will also conduct regular inspection, repair and maintenance of the equipment.