

EDUCATION BUREAU CIRCULAR MEMORANDUM NO. 255/2024

From : Secretary for Education
Ref : EDB(CD)/PSHE/CURR/
GE/2 (5)
Date : 17 December 2024

To : Supervisors/Heads of all Aided (including Special Schools), Government, Caput, Private Secondary Schools, and Secondary Schools under the Direct Subsidy Schemes offering the local senior secondary curriculum

(Please circulate this Circular Memorandum to Geography panel heads and teachers)

Proposed Optimising Measures for Senior Secondary Geography: School Questionnaire Survey and School Briefing Sessions

Summary

The purpose of this circular memorandum is to announce the proposed optimising measures for Senior Secondary Geography, the related school questionnaire survey and school briefing sessions.

Background

2. The Education Bureau (EDB) announced the measures to optimise the four senior secondary core subjects in EDBCM No. 39/2021 “Measures to Optimise the Four Senior Secondary Core Subjects” following the recommendations made by the Task Force on Review of School Curriculum in the report “Optimise the curriculum for the future, Foster whole-person development and diverse talents” in order to create space for students and cater for learner diversity. Subsequently, optimising measures are being explored in other elective subjects (including Senior Secondary Geography).

3. The optimising measures for the Senior Secondary Geography (“Optimising Measures”) were proposed by the joint working group under the “CDC – HKEAA Committee on Geography” and the “HKDSE Geography Subject Committee”. After thorough deliberation by the aforesaid two committees, the “Optimising Measures” were endorsed by the “Curriculum Development Council Committee on Personal, Social and Humanities Education”, and agreed by the “Curriculum Development Council” to proceed with school consultation.

Details

4. The “Optimising Measures” are as follows:

- **Curriculum:**

A “supplementary notes” for the Geography Curriculum and Assessment Guide (Secondary 4-6) will be developed to specify clearly the fieldwork skills that will be assessed in the HKDSE Geography Examination for teachers’ and students’ reference. The “supplementary notes” will also highlight the aims, objectives, and knowledge and concepts included in the geography curriculum to enhance teachers’ understanding of how to conduct enquiry-based fieldwork, to improve the learning and teaching of fieldwork, and to help students achieve the expected learning outcomes.

(For details, please refer to Appendix 1: Supplementary Notes for the Geography Curriculum and Assessment Guide (S4-6))

- **Assessment:**

The number of fieldwork module options in Section B of Paper 1 of the HKDSE Geography Examination as stipulated in the Assessment Framework will be reduced from 3 to 2 to create space in the learning and teaching of senior secondary Geography.

5. The above optimising measures related to curriculum are proposed to be implemented at all senior levels starting from the 2025/26 school year. The optimising measures related to assessment will be applicable to the 2027 or 2028 HKDSE Geography Examination according to the result of the questionnaire survey (Please refer to the school questionnaire enclosed for details). The EDB will announce the details later.

6. The EDB is collecting feedback from schools regarding the “Optimising Measures”, as well as schools’ readiness and support needs. Information collected will be used by the Curriculum Development Institute as a reference for formulating support measures to schools. Schools offering senior secondary Geography curriculum in the 2024/25 school year are invited to fill in the attached questionnaire (Annex) and return it to the Personal, Social and Humanities Education Section, Curriculum Development Institute, EDB by mail or email on or before **24 January 2025 (Friday)**. Each school only needs to submit **ONE** questionnaire after consolidating the opinions of respective subject teachers.

7. To provide schools with a more detailed understanding of the “Optimising Measures”, two identical sessions of the “Briefing Session on Geography Optimisation Measures – Hybrid Mode” (Course ID: CDI020241380) will be held on **3 January 2025 (Friday) and 6 January 2025 (Monday)**. Teachers can register for the briefing session through the Training Calendar System by scanning the QR code on the right.



Enquiry

8. For enquiries, please contact Ms WU Shuk-ting Connie (Tel.: 2892 6654) of the Personal, Social and Humanities Education Section, Curriculum Development Institute, EDB.

WF WONG
for Secretary for Education

Annex: Proposed Optimising Measures for Senior Secondary Geography School
Questionnaire Survey

Appendix 1: Supplementary Notes for the Geography Curriculum and Assessment Guide (S4-6)

c.c. Heads of Sections – for information

**Personal, Social and Humanities Education Key Learning Area:
Proposed Optimising Measures for Senior Secondary Geography
School Questionnaire Survey**

Purpose

This questionnaire aims to collect schools' views on the proposed optimising measures for Senior Secondary Geography. Schools offering the senior secondary Geography curriculum in the 2024/25 school year are invited to complete the questionnaire.

Background

The Education Bureau (EDB) has been reviewing the implementation of the Geography curriculum (Secondary 4-6) in schools, noting the need for optimisation to align with the latest development of society and to enhance learning and teaching effectiveness. It also responds to the recommendations of the Task Force on Review of School Curriculum on creating space and catering for learner diversity.

After in-depth discussions, the “CDC-HKEAA Committee on Geography Curriculum” and “HKDSE Geography Subject Committee” have proposed the following optimising measures:

- **Curriculum:**

The joint working group of both Committees has developed the “supplementary notes” for the Geography Curriculum and Assessment Guide (Secondary 4-6) to specify clearly the fieldwork skills that will be assessed in the HKDSE Geography Examination for teachers' and students' reference. The “supplementary notes” also highlight the aims, objectives, and knowledge and concepts of fieldwork included in the geography curriculum to enhance teachers' understanding of how to conduct enquiry-based fieldwork, to improve the teaching and learning of fieldwork, and to help students achieve the expected learning outcomes.

(For details, please refer to Appendix 1: Supplementary Notes for the Geography Curriculum and Assessment Guide (S4-6))

- **Assessment:**

The number of fieldwork module options in Section B of Paper 1 of the HKDSE Geography Examination as stipulated in the Assessment Framework will be reduced from 3 to 2 to create space in the learning and teaching of senior secondary Geography.

The above-mentioned optimising measures were endorsed by the “Curriculum Development Council Committee on Personal, Social and Humanities Education” and agreed by the “Curriculum Development Council” to proceed with school consultation. The optimising measures related to curriculum are proposed to be implemented at all senior forms starting from the 2025/26 school year. The optimising measures related to assessment will be applicable to the 2027 or 2028 HKDSE Geography Examination according to the result of the questionnaire survey. The EDB will announce the details later.

Questionnaire and Curriculum Document

This questionnaire and the attached “Supplementary Notes for the Geography Curriculum and Assessment Guide (S4-6)” (Appendix 1) can be downloaded from the following website of the Personal, Social and Humanities Education Section, Curriculum Development Institute, EDB: <http://www.edb.gov.hk/en/curriculum-development/kla/pshe/whats-new.html>

Completion of the Questionnaire

Each school offering senior secondary Geography curriculum in the 2024/25 school year should return **ONE** completed questionnaire.

Deadline

Schools should return the completed questionnaire (please indicate the School Number) by post or email (cdopshe32@edb.gov.hk) **on or before 24 January 2025 (Friday)**. The postal address is as follows:

Curriculum Development Officer (PSHE)32
Personal, Social and Humanities Education Section,
Curriculum Development Institute, Education Bureau
Room 1319, 13/F, Wu Chung House,
213 Queen’s Road East, Wanchai, Hong Kong

(School Number: _____)

To: Curriculum Development Officer (Personal, Social and Humanities Education)32

**Personal, Social and Humanities Education Key Learning Area:
Proposed Optimising Measures for Senior Secondary Geography
School Questionnaire Survey**

Before responding to the questions, please read the attached document “Supplementary Notes for the Geography Curriculum and Assessment Guide (S4-6)” (Appendix 1).

Please answer the following questions to express your views on the optimising measures of the Senior Secondary Geography. Please blacken the appropriate circle “○” and provide other opinions in the spaces provided.

Optimising Measure (1): Provide supplementary notes for the curriculum

- 1. The content of the supplementary notes on enquiry-based fieldwork
[For details, please refer to Appendix 1: Supplementary Notes for the Geography Curriculum and Assessment Guide (S4-6)]**

Helpful
○

Not helpful
○

No comment
○

Other comments on this item:

Optimising Measure (2): Assessment

- 2. The number of fieldwork module options in Section B of Paper 1 of the HKDSE Geography Examination as stipulated in the Assessment Framework will be reduced from 3 to 2.**

Agree
○

Disagree
○

No comment
○

Other comments on this item:

3. Implementation year of assessment

Considering the proposed optimising measures related to assessment, please indicate below your preference for the earliest year of implementation of the optimised HKDSE Geography Assessment Framework. (Choose **ONE** option only)

[Please note: While it is hoped that the effectiveness of learning and teaching can be enhanced as early as possible, student learning and preparation for the HKDSE should not be affected. Teachers also need to have adequate time to get familiar with the supplementary notes and adjust their lesson plans accordingly.]

- S4 of 2025/26 school year (applicable to **2028** HKDSE Geography Examination)
- S5 of 2025/26 school year (applicable to **2027** HKDSE Geography Examination*)
[*For the 2027 HKDSE, candidates are expected to have fieldwork experiences in the following modules:
 - Managing Coastal Environment
 - Building a Sustainable City

The module ‘Changing Industrial Location’ as stipulated in the 2027 HKDSE Geography Assessment Framework published in July 2024 will be cancelled.]

- No comment

Other comments on this item:

Learning and Teaching Support

4. Which types of teacher training programmes are needed most by teachers? (may choose more than one)

- Curriculum interpretation
- Assessment and feedback for learning
- Learning and teaching strategies
- Knowledge enrichment

5. How many teachers in your school will attend the professional development programmes on the optimised curriculum organised by the EDB?

Number of teacher(s): _____

Other opinions (if any):

Name of School : _____

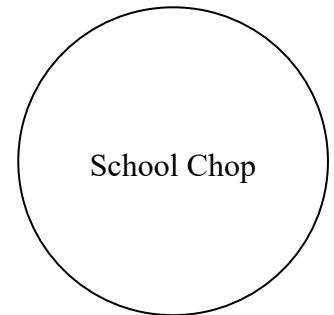
School Number :

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Name of School Principal : _____

Signature of School Principal : _____

Date : _____



- The end -
☞ Thank you for your opinions ☞

**Personal, Social and Humanities Education Key Learning Area
Geography Curriculum and Assessment Guide (Secondary 4-6)
Supplementary Notes**

Applicable to all senior secondary levels effective from the 2025/26 school year

Prepared by the Curriculum Development Council and
the Hong Kong Examinations and Assessment Authority

Introduction

These are the supplementary notes for the Geography Curriculum, prepared jointly by Curriculum Development Council and the Hong Kong Examinations and Assessment Authority in 2024 for the purpose of enhancing teachers' understanding of how to conduct enquiry-based fieldwork for the modules in the Compulsory Part. Teachers and students are suggested to use it alongside with the Geography Curriculum and Assessment Guide (Secondary 4-6) (with updates in July 2022), jointly prepared by the Curriculum Development Council and the Hong Kong Examinations and Assessment Authority.

General notes to the document

1. Annex 1 only illustrates the major methods of primary data collection and related skills for the modules of the Compulsory Part.
2. The “Relevant guiding questions” specified in the first column of Annex 1 are extracted from Chapter 2 of the Geography Curriculum and Assessment Guide (Secondary 4-6) (updated in July 2022) (i.e. Section 2.2.1).

Supplementary Notes of Enquiry-based Fieldwork for the Modules of the Compulsory Part

The following flow diagram illustrates the types of skills that are expected to be developed when students go through the five stages of enquiry-based fieldwork.

1. Planning and preparation

- identify a geographical issue / problem / phenomenon worth investigating
- define the objectives of the enquiry, including hypothesis testing, finding out relationship, and describing the distribution pattern
- formulate an appropriate and manageable plan that includes choosing a suitable field site and time for fieldwork, identifying the types of primary and secondary data to be collected and choosing suitable data collection methods



2. Data collection

- collect the primary data and information from the field using appropriate sampling methods (including random, systematic, stratified, purposive and convenience sampling), data collection methods and/or instruments
- evaluate possible problems on data collection processes before / when collecting data in the field and suggest alternative solutions if problems arise
- gather relevant supplementary information from secondary sources
(For details of the major methods of primary data collection and related skills for the modules of the Compulsory Part, please refer to Annex 1.)



3. Data processing, presentation and analysis

- review and analyse the collected data and information quantitatively by using appropriate statistical techniques (including mean, median, mode, standard deviation and correlation coefficient) and/or qualitatively to identify meanings, patterns and/or relationships
- apply appropriate presentation methods (including field sketches, annotated diagrams / photos, transects, tabulations, graphs and maps) to present data and information collected in the field and/or from secondary data



4. Interpretation and conclusion

- interpret the collected field data and other information by applying relevant geographical concepts and knowledge
- draw a precise conclusion, propose possible solutions and/or make rational decisions based on evidence, with justifiable reasons and/or support of theories



5. Evaluation

- evaluate the strengths and limitations of fieldwork
- suggest any possible alternative approaches, improvements or extensions for future research

Major Methods of Primary Data Collection and their related skills for the Modules of the Compulsory Part

Module 1: Opportunities and Risks — Is it rational to live in hazard-prone areas?

Relevant guiding questions	Fieldwork related knowledge / concepts	Suggested methods of primary data collection	Related skills
<ul style="list-style-type: none"> • What are the related landform features found at plate boundaries? How are they formed? • What are the effects of earthquakes, volcanic eruptions and tsunamis? 	<ol style="list-style-type: none"> 1. Internal processes and their related landform features 2. Impacts of natural hazards 	1. Field sketching	<ul style="list-style-type: none"> • Observe and identify evidences of internal processes happened and their related landform features and draw field sketches that can highlight them
		2. Observation	<ul style="list-style-type: none"> • Observing the physical landform features, damage to infrastructure or changes in the landscape
<ul style="list-style-type: none"> • Should people move away from hazard-prone areas? • Why do some people still live in hazard-prone areas? • Is their choice rational? 	<ol style="list-style-type: none"> 3. People’s response to natural hazard 4. Opportunities and risks brought about by tectonic activities 	1. Land use mapping	<ul style="list-style-type: none"> • Identify correctly the types of land use, locate and plot accurately the types of land use on the map
		2. Questionnaire or interview	<ul style="list-style-type: none"> • Set suitable questions for the questionnaire or interview • Apply appropriate interviewing skills

Module 2a: Managing River and Coastal Environments: A continuing challenge - River Environment

Relevant guiding questions	Fieldwork related knowledge / concepts	Suggested methods of primary data collection	Related skills
<ul style="list-style-type: none"> • How does water shape the landform in a drainage basin? • What are the major landform features created by the work of running water? 	<ol style="list-style-type: none"> 1. River morphology <ul style="list-style-type: none"> • Channel width • Channel depth • Channel cross section • Channel gradient • River velocity • Discharge • Roughness of river bed • Fluvial landform features* 2. Characteristics of river load <ul style="list-style-type: none"> • Size of bed load • Angularity of bed load 	<ol style="list-style-type: none"> 1. Measurement 	<ul style="list-style-type: none"> • Appropriate use of measuring devices to measure the channel width, depth, cross section and roughness of the river bed • Appropriate use of instruments to measure channel gradient <ul style="list-style-type: none"> ➤ Abney level, measuring tape and ranging pole • Appropriate use of instruments to measure river velocity and discharge <ul style="list-style-type: none"> ➤ floating objects, measuring tape and timer • Appropriate use of instruments and tools to measure the size of bed load <ul style="list-style-type: none"> ➤ Vernier Calliper ➤ meter ruler ➤ grain size chart • Appropriate use of Powers scale of roundness chart to measure the angularity of bed load
<ul style="list-style-type: none"> • How do human activities influence the river environment? 	<ol style="list-style-type: none"> 3. Impact of human activities on river environment 	<ol style="list-style-type: none"> 2. Field sketching* (for fluvial landform features) 1. Land use mapping 	<ul style="list-style-type: none"> • Observe and identify the fluvial landform features and draw field sketches that can highlight them • Identify correctly the types of land use, locate and plot accurately the types of land use on the map

<p>What are the resulting consequences?</p>	<ul style="list-style-type: none"> • Human activities near the river (including agriculture, industry, recreation) and their impact <p>4. River water quality</p> <ul style="list-style-type: none"> • Water temperature • pH value • Turbidity and clarity of water • Pollutants / nutrient levels • Dissolved oxygen • Presence of living organisms 	<p>2. Measurement</p>	<ul style="list-style-type: none"> • Appropriate use of instruments to measure the water quality <ul style="list-style-type: none"> ➤ pH paper ➤ thermometer ➤ water quality meters ➤ testing kits
<ul style="list-style-type: none"> • How does the management of river system pose a continuing challenge for people? 	<p>5. River management strategies and their effectiveness</p> <ul style="list-style-type: none"> • Types of river management strategies • Changes to river morphology and water quality 	<p>3. Observation and counting</p>	<ul style="list-style-type: none"> • Identify and observe the presence of living organisms and/or pollutants in the water • Smelling
		<p>1. Questionnaire or interview</p>	<ul style="list-style-type: none"> • Set suitable questions for the questionnaire or interview • Apply appropriate interviewing skills
		<p>2. Measurement</p>	<ul style="list-style-type: none"> • Appropriate use of measuring devices to measure the channel width, depth, cross section and roughness of the river bed • Appropriate use of instruments to measure channel gradient <ul style="list-style-type: none"> ➤ Abney level, measuring tape and ranging pole • Appropriate use of instruments to measure river velocity and discharge <ul style="list-style-type: none"> ➤ floating objects, measuring tape and timer • Appropriate use of instruments and tools to measure the water quality <ul style="list-style-type: none"> ➤ pH paper ➤ thermometer

			<ul style="list-style-type: none"> ➤ water quality meters ➤ testing kits
		3. Observation and counting	<ul style="list-style-type: none"> • Identify and observe the presence of living organisms and/or pollutants in the water • Smelling

Module 2b: Managing River and Coastal Environments: A continuing challenge - Coastal Environment

Relevant guiding questions	Fieldwork related knowledge / concepts	Suggested methods of primary data collection	Related skills
<ul style="list-style-type: none"> • How does water operate along coasts? • What are the major landform features created by the work of wave? 	<ol style="list-style-type: none"> 1. Weather elements <ul style="list-style-type: none"> • Wind direction • Wind speed 2. Coastal morphology <ul style="list-style-type: none"> • Beach gradient • Beach profile • Coastal landform features* 3. Wave characteristics <ul style="list-style-type: none"> • Wave frequency • Strength of swash and backwash • Direction of longshore drift 4. Beach sediments <ul style="list-style-type: none"> • Particle size • Composition 	<ol style="list-style-type: none"> 1. Setting of transect 	<ul style="list-style-type: none"> • Choose an appropriate place and decide an appropriate length to set the transect
		<ol style="list-style-type: none"> 2. Measurement 	<ul style="list-style-type: none"> • Appropriate use of weather instruments • Appropriate use of instruments to measure beach gradient and profile <ul style="list-style-type: none"> ➤ Abney level, measuring tape and ranging pole • Appropriate use of instruments to measure wave characteristics <ul style="list-style-type: none"> ➤ timer and ranging pole ➤ swingometer ➤ timer, floating object and measuring tape • Appropriate use of instruments and tools to measure beach sediments <ul style="list-style-type: none"> ➤ Vernier Calliper ➤ meter ruler ➤ hand lens ➤ grain size chart
		<ol style="list-style-type: none"> 3. Field sketching* (for coastal landform features) 	<ul style="list-style-type: none"> • Observe and identify the coastal landform features and draw field sketches that can highlight them
<ul style="list-style-type: none"> • How do human activities influence the coastal environment and what are 	<ol style="list-style-type: none"> 5. Impact of human activities on the coastal environment 	<ol style="list-style-type: none"> 1. Land use mapping 	<ul style="list-style-type: none"> • Identify correctly the types of land use, locate and plot accurately the types of land use on the map

the resulting consequences?	<ul style="list-style-type: none"> Human activities near the coast (including agriculture, recreation) and their impact 6. Coastal water quality <ul style="list-style-type: none"> Clarity of water Pollutants Presence of living organisms Dissolved oxygen 	2. Measurement	<ul style="list-style-type: none"> Appropriate use of testing kits to measure the water quality
		3. Observation and counting	<ul style="list-style-type: none"> Identify and observe the presence of living organisms and/or pollutants in the water Smelling
<ul style="list-style-type: none"> How does the management of coastal system pose a continuing challenge for people? 	7. Coastal management strategies and their effectiveness <ul style="list-style-type: none"> Types of coastal management strategies Changes to coastal morphology 	1. Questionnaire or interview	<ul style="list-style-type: none"> Set suitable questions for the questionnaire or interview Apply appropriate interviewing skills
		2. Measurement	<ul style="list-style-type: none"> Appropriate use of instruments to measure coastal morphology <ul style="list-style-type: none"> ➤ Abney level, measuring tape and ranging pole

Module 3: Changing Industrial Location – How and why does it change over space and time?

Relevant guiding questions	Fieldwork related knowledge / concepts	Suggested methods of primary data collection	Related skills
<ul style="list-style-type: none"> • Where was the manufacturing industry of Hong Kong located in the past? Where is it now? • Where are the major iron and steel industrial centres in China? • Why are they there? • Why does the same group of factors not influence the location of the US IT industry? • What determines its location there? • What impacts have globalization and technological advances had on the location of manufacturing industry and its mode of production? • What are the likely social, economic and environmental impact of changes in industrial location and modes of production? 	<ol style="list-style-type: none"> 1. Location factors for different types of industries 2. Transformation of major functions and characteristics of the industrial land use 3. Future prospects and challenges faced by industry in terms of globalisation and technological advancements 4. Impact of changes in industrial location and mode of production 	1. Land use mapping	<ul style="list-style-type: none"> • Identify correctly the types of land use, locate and plot accurately the types of land use on the map
		2. Questionnaire or interview	<ul style="list-style-type: none"> • Set suitable questions for the questionnaire or interview • Apply appropriate interviewing skills
		3. Observation and conducting survey	<ul style="list-style-type: none"> • Set suitable criteria for distinguishing and assessing the major function and characteristics of the building / area • Use secondary data to compliment the primary data to study the transformation
		4. Categorising and counting	<ul style="list-style-type: none"> • Identify, count and categorise the types of economic activities into manufacturing and non-manufacturing industry • Identify, count and categorise the types of vehicles passing through the field site
		5. Measurement	<ul style="list-style-type: none"> • Appropriate use of instruments to measure the environmental quality, including noise level and air quality

Module 4: Building a Sustainable City – Are environmental conservation and urban development mutually exclusive?

Relevant guiding questions	Fieldwork related knowledge / concepts	Suggested methods of primary data collection	Related skills
<ul style="list-style-type: none"> • How does the internal structure of a city change as it grows? • What are the processes involved in such a change? 	1. Land use pattern of an area	1. Land use mapping	<ul style="list-style-type: none"> • Identify correctly the types of land use, locate and plot accurately the types of land use on the map
		2. Field sketching	<ul style="list-style-type: none"> • Observe and identify the major features of the area and draw field sketches that can highlight them
	2. Degree of urban decay, urban sprawl and encroachment, urban redevelopment and renewal	1. Observation and conducting survey	<ul style="list-style-type: none"> • Set suitable criteria for distinguishing and assessing the quality of the building / environment • Set suitable criteria for assessing the order of the commercial activities
		2. Categorising and counting	<ul style="list-style-type: none"> • Identify, count and categorise the characteristics of the pedestrian passing through the field site
<ul style="list-style-type: none"> • What problems does a growing city bring? • What solutions are there for these problems? • What kinds of conflict will be created when solving the above problems? • In what ways and with what success are these conflicts being dealt with? • Why is the concept of 	1. Urban problems 2. Solutions for urban problems 3. Level of sustainability	1. Land use mapping	<ul style="list-style-type: none"> • Identify correctly the types of land use, locate and plot accurately the types of land use on the map
		2. Field sketching	<ul style="list-style-type: none"> • Observe and identify the major features of the area and draw field sketches that can highlight them
		3. Observation and conducting survey	<ul style="list-style-type: none"> • Set suitable criteria for distinguishing and assessing the quality of the building / environment
		4. Measurement	<ul style="list-style-type: none"> • Appropriate use of instruments to measure the environmental quality, including noise level and air quality

<p>“sustainable development” helpful in dealing with these conflicts?</p>		5. Categorising and counting	<ul style="list-style-type: none"> • Identify, count and categorise the types of vehicles passing through the field site • Identify, count and categorise the characteristics of the pedestrian passing through the field site
		6. Questionnaire or interview	<ul style="list-style-type: none"> • Set suitable questions for the questionnaire or interview • Apply appropriate interviewing skills

Module 5: Combating Famine – Is technology a panacea for food shortage?

Relevant guiding questions	Fieldwork related knowledge / concepts	Suggested methods of primary data collection	Related skills
<ul style="list-style-type: none"> • What are the factors that affect agricultural production in an area? How do these factors shape the characteristics of farming in an area? • Why are agricultural characteristics so varied even in similar natural environmental settings? • How true is it to say that human factors are becoming more and more dominant than physical factors in influencing agriculture? 	<ol style="list-style-type: none"> 1. Characteristics of a farming system <ul style="list-style-type: none"> • Types of farming inputs • Farming processes • Types of farming outputs • Farm characteristics 2. Locational factors for farming 3. Factors affecting agricultural characteristics 	1. Agricultural land use mapping	<ul style="list-style-type: none"> • Identify correctly the agricultural land uses, locate and plot accurately the agricultural land uses on the map
		2. Measurement	<ul style="list-style-type: none"> • Appropriate use of weather instruments • Appropriate use of methods to test the soil grain size and texture <ul style="list-style-type: none"> ➤ feel test ➤ sedimentation method ➤ grain size chart • Appropriate use of testing kits to test the composition and nutrient level of the soil • Appropriate use of measuring devices to measure the size of the farm
		3. Observation and counting	<ul style="list-style-type: none"> • Identify and describe the types of farming inputs, processes and outputs
		4. Questionnaire or interview	<ul style="list-style-type: none"> • Set suitable questions for the questionnaire or interview • Apply appropriate interviewing skills
<ul style="list-style-type: none"> • To what extent can technology help to increase agricultural production and alleviate food shortage? • Is it possible for us to minimise the negative 	<ol style="list-style-type: none"> 4. Impact of technology, including environmental impact 5. Sustainable farming 	1. Measurement	<ul style="list-style-type: none"> • Appropriate use of instruments and tools to assess environmental quality <ul style="list-style-type: none"> ➤ pH paper ➤ testing kits
		2. Observation and counting	<ul style="list-style-type: none"> • Observe the impact of farming technology on the environment, including the presence of living organisms, pollutants,

<p>impact of using technology in agriculture, and at the same time produce enough food for everyone?</p>			<p>habitat loss, land degradation, soil erosion and impact on rural landscape</p> <ul style="list-style-type: none"> • Smelling
		<p>3. Questionnaire or interview</p>	<ul style="list-style-type: none"> • Set suitable questions for the questionnaire or interview • Apply appropriate interviewing skills

Module 6: Disappearing Green Canopy – Who should pay for the massive deforestation in rainforest regions?

Relevant guiding questions	Fieldwork related knowledge / concepts	Suggested methods of primary data collection	Related skills
<ul style="list-style-type: none"> • What would a tropical rainforest look like before large-scale deforestation? • Why does it look like that? • What is the evidence for saying that the tropical rainforest is a complex but fragile ecosystem? • What is the impact of large-scale deforestation in tropical rainforest regions? 	<ol style="list-style-type: none"> 1. Woodland / Tropical rainforest ecosystem <ul style="list-style-type: none"> • Abiotic components • Biotic components 2. Characteristics of woodland / tropical rainforest <ul style="list-style-type: none"> • Tree height • Crown width • Circumference of tree trunk • Canopy density • Shrub height • Undergrowth cover • Degree of stratification • Amount of climbers / epiphytes / parasitic plants 3. Impact of human activities 	1. Setting of transect and grid quadrat	<ul style="list-style-type: none"> • Choose appropriate places to set the transect and the grid quadrat
		2. Measurement	<ul style="list-style-type: none"> • Appropriate use of weather instruments • Appropriate use of methods to test the soil grain size and texture <ul style="list-style-type: none"> ➢ feel test ➢ sedimentation method ➢ grain size chart • Appropriate use of testing kits to test the soil composition and nutrient level • Appropriate use of instruments to measure tree and shrub height, crown width and circumference of tree trunk <ul style="list-style-type: none"> ➢ measuring tape and Abney level ➢ meter ruler • Appropriate use of densiometer to measure canopy density
		3. Categorising and counting	<ul style="list-style-type: none"> • Identify, count and categorise the types of vegetation and living organisms • Count and estimate the coverage of undergrowth with the use of a grid quadrat
		4. Field sketching	<ul style="list-style-type: none"> • Identify the characteristics of the vegetation and draw field sketches that can highlight them
		5. Land use mapping	<ul style="list-style-type: none"> • Identify correctly the types of land use, locate and plot accurately the types of land use on the map

		6. Questionnaire or interview	<ul style="list-style-type: none">• Set suitable questions for the questionnaire or interview• Apply appropriate interviewing skills
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Module 7: Climate Change – Long-term fluctuation or irreversible trend?

Relevant guiding questions	Fieldwork related knowledge / concepts	Suggested methods of primary data collection	Related skills
<ul style="list-style-type: none"> • Is our climate also changing at a local scale? • How is the climate of our urban areas different from our rural areas? Why is there such a difference? • What are the effects of urban growth and development on the climate of our city? 	<ol style="list-style-type: none"> 1. Weather elements in different parts of the urban and/or rural areas 2. Factors affecting the microclimate in different parts of the urban and/or rural areas 3. Effects of urban growth and development on microclimate 	1. Land use mapping	<ul style="list-style-type: none"> • Identify correctly the types of land use, locate and plot accurately the types of land use on the map
		2. Measurement	<ul style="list-style-type: none"> • Appropriate use of weather instruments
		3. Observation and counting	<ul style="list-style-type: none"> • Identify, count and categorise the factors affecting microclimate, including the number of vehicles, building density and materials, open areas and vegetation cover
		4. Observation and conducting survey	<ul style="list-style-type: none"> • Set suitable criteria for assessing the different factors affecting microclimate