

Geography

Singapore-Cambridge General Certificate of Education Advanced Level Higher 3 (2021) (Syllabus 9822)

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INTRODUCTION

Aims of Geography Education

Geography is the science of place and space. Geographers ask where things are located on the surface of the earth... Geography is unique in linking the social sciences and natural sciences... Geographers use many tools and techniques... [including] Geographic Information Systems (GIS), Remote Sensing, Global Positioning Systems (GPS)... and others.

Association of American Geographers

Geography is the study of Earth's landscapes, peoples, places and environments... bridging the social sciences with the natural sciences... and puts [the] understanding of social and physical processes within the context of places and regions... [Geography] helps us all to be more socially and environmentally sensitive, informed and responsible citizens...

Royal Geographical Society (with the Institute of British Geographers)

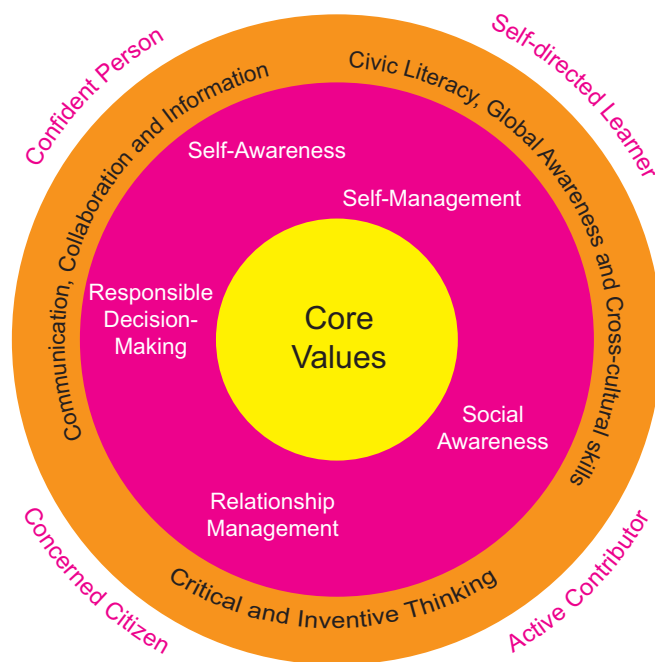
Geographers in different parts of the world define Geography differently depending on when they are asked to provide a definition of the subject. While the Association of American Geographers describes Geography as a science that deploys geospatial technologies, the Royal Geographical Society (with the Institute of British Geographers) puts greater emphasis on Geography's endeavour to understand our world in its entirety.

Both perspectives hint at the evolving variety of practices and interests among Geographers. More importantly what Geographers do is also influenced by the ever-changing socio-political contexts that they operate in. This dynamism of Geography has been frequently cited as the strength of the subject.

Geography, Desired Outcomes of Education and 21st Century Competencies

More than simply learning prescribed subject knowledge and skills, Geography must also support students' development of important competencies necessary for them to thrive in the 21st century. In addition, students need to learn a range of life skills and develop key social and emotional competencies that will enable them to achieve personal mastery and relate to others. More importantly, all learning must be anchored in enduring values. Figure 1 outlines the framework for 21st century competencies and student outcomes.

Figure 1: Framework for 21st Century Competencies and Student Outcomes



AIMS AND LEARNING OUTCOMES

The aims and learning outcomes below represent the body of geographical knowledge, skills and values that students will acquire through H3 Geography.

Value

The syllabus seeks to encourage students to:

1. be inspired by the splendour of natural environments and human ingenuity
2. care for delicate ecosystems and understand the importance of environmentally sustainable lifestyles
3. develop as global citizens, seek harmony and respect others in a culturally diverse world
4. contribute responsibly towards the building of a robust and inclusive society
5. have the integrity to uphold ethical principles and be resilient in their pursuit for a better world.

Knowledge

The syllabus requires students to develop an understanding of:

1. different frameworks in understanding sustainable development
2. the subjective nature of maps and using maps as a tool to persuade and analyse
3. the uniqueness of different types of natural environments and places
4. the interactions and interdependence between natural environments, urban and rural areas, societies and cultures at various scales
5. the processes that shape natural environments, societies and cultures at various scales
6. the connections, trends and patterns in different parts of the world
7. different approaches to solve real-world problems and achieve sustainable development.

Skills

The syllabus seeks to equip students with the ability to:

1. consider evidence and different viewpoints to develop logical arguments and explanations
2. analyse, evaluate and reflect on information from a geographical perspective to make informed and sound decisions
3. construct understanding through inquiry using different data collection and analysis methods
4. use and evaluate maps and other data representation to integrate information and communicate to a specific audience.

ASSESSMENT OBJECTIVES

Candidates will be expected to:

- AO1** demonstrate geographical understanding through selection and synthesis of knowledge
- AO2** apply geographical concepts in examining the chosen research topic related to sustainable development
- AO3** collect, analyse and evaluate primary and/or secondary data
- AO4** coherently present well-substantiated arguments based on a reasoned consideration of evidence and/or different viewpoints
- AO5** evaluate chosen research strategy.

SYLLABUS CONTENT

A Geography and Sustainable Development (16hrs)

Geography and Sustainable Development is based on frameworks and geographical approaches on sustainable development. It is recommended that this component be conducted over 16 hours.

1. *Examining sustainable development using different frameworks*

- a) Ecocentrism versus anthropocentrism
 - i Principles of deep ecology
 - ii Ecosystem services
 - iii Ecological modernisation
- b) Environmental justice
- c) Political ecology
 - i Environmental subjects and identity thesis – exploring the identities of people as being linked to basic issues of livelihood and environmental activity
 - ii Conservation and control thesis – revealing the negative effects of well-intended efforts to conserve the environment
- d) Cultural heritage as the fourth pillar of sustainable development

2. *Mapping sustainable development*

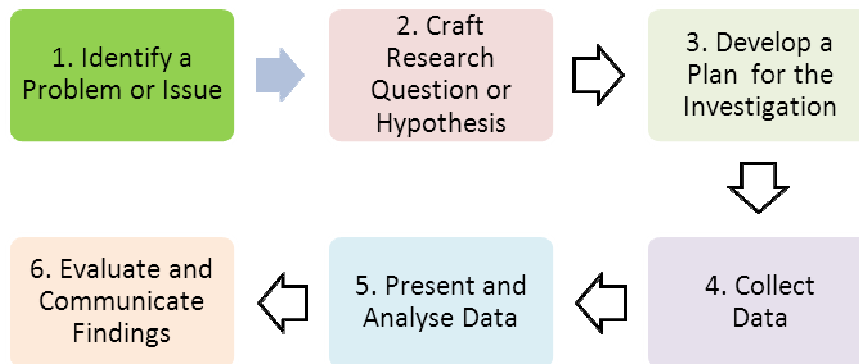
- a) Visualising spatial dimensions of sustainable development using different thematic maps
- b) Generalising information by classifying data, selecting and simplifying map features
- c) Symbolising information using different shapes, sizes, colours and texture
- d) Implications of using particular map centring and different map projections including Peters, Mercator and Geographic Coordinate System

3. *Scales of action and interaction in sustainable development*

- a) Understanding ecological and social science scales as nested hierarchies of bounded spaces of differing size
- b) Addressing different aspects of sustainable development simultaneously at different levels of the spatial hierarchy
- c) Constraints imposed by international agreements on sustainable development efforts at the national level
- d) Effects of activities at the local or community level on sustainable development efforts at the national or global level

B Independent Research Component – Geographical Investigation (88 hrs)

With guidance from their Coursework Supervisor, candidates will identify a suitable problem or issue and carry out an independent research. Their investigation should reflect the following stages:



1. *Identify a Problem or Issue*

Candidates should be able to identify a research topic that is:

- related to an aspect of sustainable development.

2. *Craft Research Question or Hypothesis*

Candidates should be able to craft geographical questions/hypotheses that are:

- at a suitable scale
- capable of research
- clearly defined.

3. *Develop a Plan for the Investigation*

Candidates should be able to:

- establish the data needed to examine the question/hypothesis posed
- identify appropriate methods for collecting primary and secondary data (including sampling when required)
- consider research ethics and understand limitations imposed by resources
- minimise potential risks in undertaking investigation.

4. *Collect Data*

Candidates should be able to:

- make use of data as appropriate to the question/hypothesis posed
- consider issues of accuracy and reliability in relation to the data being collected.

5. *Present and Analyse Data*

Candidates should be able to:

- organise and represent data using appropriate methods
- analyse and interpret the data using appropriate qualitative and quantitative methods
- interpret the results in relation to the question/hypothesis posed.

6. Evaluate and Communicate Findings

Candidates should be able to:

- present a summary of the findings, relating back specifically to the question/hypothesis posed
- present an evaluation of the investigation, including the methods used, data collected and possible limitations and improvements that could be made.

Examples of Research Questions

The research topics listed below are intended as a guide. The list is not intended to be comprehensive. Rather, it serves as a guide to assist candidates in formulating their investigation.

- What form(s) of environmental conservation is/are feasible for a neighbourhood (or precinct) in Singapore?
- To what extent are social (or environmental) outcomes in Singapore influenced by its free trade agreement with the United States?
- In what ways does the Mangrove Forest Recovery Project at the Kuala Selangor Nature Park affect local communities?
- Why do people take part in environmental efforts in Singapore?
- What do energy labels and rating systems really achieve?
- What is the potential of maps in raising awareness about social development in different parts of Southeast Asia?
- To what extent do maps influence people's perception of global poverty?
- Should the use of clean diesel be promoted in Singapore to lower carbon emissions from motor vehicles?
- What forms of cultural heritage in Queenstown should be protected?

SCHEME OF ASSESSMENT

H3 Geography is assessed in the form of a **Research Essay**.

Candidates will submit a Research Essay with no more than 3500 words based on a topic related to sustainable development which had been approved in advance by Cambridge International. The purpose of a geographical investigation assessed in the form of a research essay is to amplify, reinforce and extend the principal concepts and skills relevant to the study of sustainable development. It challenges candidates to conduct an in-depth study of a topic related to sustainable development which adds to their knowledge, understanding and awareness.

Research should commence in November of the first academic year and the Research Essay should be ready for submission to Cambridge by September of the second academic year.

Planning and Writing the Research Proposal**1. Identifying a Research Topic**

Candidates are encouraged to consider two to three possible areas of research. They should do some basic reading on the proposed research topics to establish their viability. Candidates should finally select one research topic which is focused and will contribute to existing geographical knowledge. The selected research topic should be set in the form of a question to be answered.

2. Approval Process for the Research Proposal

- 2.1 Candidates must submit the soft copy of their Research Essay Proposal Form (Appendix A) to SEAB by a specified date in Term 1 of the second year of study. **Deadlines for submissions will be specified by SEAB in a circular to schools each year.**
- 2.2 The Proposal must not exceed 500 words and should include the following:
- Research Question
 - Synopsis of Research Essay which states the following clearly:
 - Aim(s) of research
 - Scope of research (e.g. population size, location, duration of study, etc.)
 - Relationship between the research and sustainable development
 - Identification of potential limitations of the research.
 - Review of related research – selection of theories, concepts and findings related to the research question.
 - Quantitative and/or qualitative methods to be used in data collection and analysis.
- 2.3 The hard copy of the proposal must be dated and signed by both the candidate and the Coursework Supervisor supervising the study. The hard copy should be retained by the school and submitted with the completed Research Essay by the date specified by SEAB.
- 2.4 Proposal submissions will be sent electronically to Cambridge for approval by the examiner.
- 2.5 If a proposal is acceptable as it stands, the examiner will approve it without further feedback.
- 2.6 If the examiner rejects a proposal, or indicates that a proposal needs to be revised before it can be approved, s/he will send feedback accordingly. This feedback must be retained and submitted with the completed Research Essay, along with the hard copy of the original research proposal. (See paragraph 2.3).
- 2.7 If a candidate has been advised by the examiner that s/he must make a resubmission of the amended proposal for approval, or submit a second proposal, the candidate must do so by the date specified by SEAB.

Notes for Coursework Supervisors on Research Essay

3. The Research Essay submitted for assessment must be the candidates' own work and should represent their ability to work independently; nevertheless, all candidates will need support from their centres in the form of monitoring the work in progress and giving some degree of guidance.

3.1 During Proposal Stage

- 3.1.1 At the Proposal Stage of the Research Essay, Coursework Supervisors are expected to:
- guide candidates on the selection of an appropriate research question
 - guide candidates in the formulation of their research proposal. This guidance includes discussion with the candidates of feedback given by the examiner on the proposal, as well as the formulation of a second proposal, if required.
 - advise candidates on the work schedule
 - advise candidates on research ethics
 - guide candidates on research skills and methods
 - advise candidates on the suitability of resources/references selected
 - draw candidates' attention to the importance of the declaration they will be required to make in the *Declaration and Submission Form* (Appendix B)
 - explain to candidates what they will be assessed on and how their performance will be assessed.

3.2 During Writing Stage

- 3.2.1 At the Writing Stage, the Coursework Supervisor should continually monitor the progress of the candidate to ensure that the candidate's work is on schedule.
- 3.2.2 The Coursework Supervisor may provide feedback on the Research Essay only during the scheduled conference sessions. The Coursework Supervisor must ensure that the candidate does his/her own independent thinking and is fully responsible for developing the arguments and essay structures, and sourcing of information.
- 3.2.3 The Coursework Supervisor may have up to three face-to-face conferences with the candidate. The first and second conferences are compulsory while the third conference is optional.
- First conference (compulsory)** – this must be conducted as soon as the candidate is ready with the first draft, at the latest by mid-May. The Coursework Supervisor will not be required to complete the *Record of Guidance* (Appendix C).
 - Second conference (compulsory)** – this must be conducted at the latest by mid-July. The Coursework Supervisor will be required to complete the *Record of Guidance* (Appendix C), giving details of key points of guidance provided during the conference. The Coursework Supervisor should make it known to the candidate that the nature and extent of guidance given at the second conference will be recorded and may be taken into consideration by the examiner during the marking of the candidate's work.
 - Third conference (optional)** – this, if needed, must be conducted latest by mid-August.
The third conference can be conducted:
 - at the request of a candidate, or
 - should the Coursework Supervisor feel that a candidate would benefit from a third conference, s/he may suggest it to the candidate. However, it should be the candidate's decision whether or not to take up the suggestion.

The Coursework Supervisor will be required to complete the *Record of Guidance* (Appendix C), giving details of key points of guidance provided during the conference. The Coursework Supervisor should make it known to the candidate that the nature and extent of additional guidance given at the third conference will be recorded and may be taken into consideration by the examiner during the marking of the candidate's work.
- 3.2.4 There is no time limit on the duration of the conferences, as the length of time required will depend on each candidate's needs. However, the conferences should each take place over one sitting. This means that centres should schedule their conferences in such a way that each of the conferences takes place over a single session within one day.
- 3.2.5 The Coursework Supervisor may accept a draft of a candidate's work in advance of the conferences, for discussion during the session, but the Coursework Supervisor should not give any written feedback on the work submitted.
- 3.2.6 The Coursework Supervisor should encourage the candidate to take notes during the conferences so that s/he can refer to these notes subsequently when working independently.
- 3.2.7 The candidate should be given the opportunity to see what has been noted down on the form and should sign his/her acknowledgement of the guidance given.
- 3.2.8 The *Record of Guidance* (Appendix C) should be attached to the front of the completed work submitted for assessment, behind the *Declaration and Submission Form* (Appendix B). The *Record of Guidance* (Appendix C) must carry the Coursework Supervisor's signature and date.

3.3 Acknowledgement of External Guidance

- 3.3.1 Candidates are permitted to seek advice or information from people outside of the school environment who have expertise that is relevant to their research. However, as part of their guidance on the ethics of carrying out independent research, Coursework Supervisors should advise candidates that it is not acceptable for them to either seek or accept help from any outside agency, including family and friends, in the actual writing of their Research Essay.
- 3.3.2 Candidates must acknowledge guidance or information provided by people other than their Coursework Supervisors through the use of footnotes or endnotes, or in their bibliography.

3.4 Submission of Work and Suspicion of Plagiarism

- 3.4.1 When candidates submit their Research Essay for assessment, Coursework Supervisors are expected to ensure that candidates have completed the *Declaration and Submission Form* (Appendix B) and attach it to the front of the work, along with the *Record of Guidance* (Appendix C).
- 3.4.2 Coursework Supervisors should also attach the hard copy of the proposal(s).
- 3.4.3 While Coursework Supervisors do not need to assess the work that is submitted, or check that requirements for the Research Essay have been fulfilled, nevertheless, they will need to read the work in order to satisfy themselves that it is authentic.
- 3.4.4 If the Coursework Supervisor is satisfied that, to the best of his/her knowledge of the candidate and the progress of the Research Essay, the work is authentic, s/he should sign and date the declaration on authenticity on the *Declaration and Submission Form* (Appendix B). It is understood that the declaration is made in good faith by the Coursework Supervisor and that ultimately, the authenticity of the work is the candidate's responsibility.
- 3.4.5 If the Coursework Supervisor has cause for suspicion of plagiarism in the work submitted, s/he should circle 'reason' [to believe that the candidate has plagiarised work in this Research Essay] in the *Declaration and Submission Form* (Appendix B) and give details in an *Irregularity Report* (to be issued by SEAB). The report should be submitted to SEAB, together with the work in question and the candidate's approved proposal.
- 3.4.6 All documentation regarding cases of suspected plagiarism, proven or otherwise, must be submitted to SEAB. The examining authority will take disciplinary action against any candidate found to have committed or aided the offence of plagiarism.
- 3.4.7 If there are no irregularity cases, a 'Nil Return' for the subject must be submitted by the school.

Notes on the Submission of the Research Essay

4. The Research Essay must be submitted to Cambridge by mid-September of the second academic year. It must be type-written on A4 size paper using Arial 12 font, double-spaced and appropriately referenced where necessary. All pages except the cover page must be paginated at the lower right hand corner. It is essential that all direct quotations or ideas borrowed from authors, which are paraphrased in the candidate's own words are acknowledged when referencing. All diagrams, maps and graphs should be folded down to A4 size. A complete bibliography of all resources used/referred to must be attached to the work. Candidates are reminded to adhere strictly to the word limit of no more than 3500 words for the Research Essay. They should be informed that the following do not constitute part of the word count:
- titles and content of diagrams (e.g. graphs, charts, tables, maps)
 - footnotes
 - bibliography
 - appendices
 - acknowledgement
 - page numbers
5. The Research Essay must be accompanied by:
- Research Essay Proposal Form (Appendix A)
 - Declaration and Submission Form (Appendix B)
 - Record of Guidance (Appendix C)
 - Appendices (where necessary)

Appendices are supplementary reference materials that may assist the marker in assessing the Research Essay. Examples of these materials include maps, charts and questionnaires. Materials that are not relevant to the Research Essay and are used solely for the purpose of interest and decoration should not be appended.

APPENDICES



[APPENDIX A]

[To be attached to the front of H2 Independent Study / H3 Research Essay / H3 Research Project]

**GEOGRAPHY
HIGHER 3
(Syllabus 9822)**

RESEARCH ESSAY PROPOSAL FORM

Candidate's Name:	Index Number:
Centre Name:	Centre Number:
Year of Examination:	
If this is the 2nd submission, please tick here	<input type="checkbox"/>
Research Question:	
Synopsis of Research Essay: [State clearly the aim(s) and scope of your research (e.g. population size, location, duration of study, etc.), the relationship between your research and sustainable development and identification of potential limitations of your research.]	

Review of Related Research: [Selection of theories, concepts and findings related to the research question]		
Quantitative and/or qualitative methods to be used in data collection and analysis		
Candidate's Signature:		Date:
Coursework Supervisor's Name:	Signature:	Date:

School Stamp



[APPENDIX B]

[To be attached to the front of H2 Independent Study/ H3 Research Essay/ H3 Research Project]

H2 INDEPENDENT STUDY / H3 RESEARCH ESSAY / H3 RESEARCH PROJECT**DECLARATION AND SUBMISSION FORM**

Subject:	Subject Code:
Candidate's Name:	Index Number:
Centre Name:	Centre Number:
Coursework Supervisor's Name:	Year of Examination:
Title of Independent Study/Research Essay/Research Project:	
Word count for Independent Study/Research Essay/Research Project: _____ words	
<p>Plagiarism Warning: Plagiarism is using someone else's work without acknowledging the source of that information. (Refer to the examination syllabus for more details on what constitutes plagiarism.) Plagiarism amounts to intellectual theft and is seen as an act of dishonesty. An investigation will be conducted when there is cause for suspicion of plagiarism. Where clear and convincing evidence exists, disciplinary action by the examining authority will be taken against any candidate found to have committed or aided the offence of plagiarism. Candidates who have contravened the examination regulations will not be given a grade and a 'T' symbol for the subject will be indicated.</p>	
<p>Candidate's Declaration: I declare that the attached work was produced solely by me. I also declare that the subject area and content used in this Independent Study/Research Essay/Research Project is not used in any other H2/H3 Independent Study/Research Essay/Project that I am submitting or have submitted for an examination. I am aware that if I am submitting two or more pieces of research work, only one of the works will be assessed if it is found that there is substantial overlap of content in the various pieces of research work submitted. Candidate's signature and date _____</p>	
<p>Coursework Supervisor's Declaration: In supervising this candidate, I declare that I have / have not* supervised this candidate in accordance with the Notes of Guidance contained in the Examination Syllabus. * If 'have not', please attach an Irregularity Report containing the details to this Form. Coursework Supervisor's signature and date _____ I have no reason / reason** to believe that the work submitted by the candidate contains plagiarised material (please circle accordingly). ** If there is evidence to suggest plagiarism may have occurred, please complete an Irregularity Report and submit it to SEAB with the candidate's work. Coursework Supervisor's signature and date _____</p>	

**School
Stamp**



[APPENDIX C]

[To be attached to the front of H2 Independent Study/ H3 Research Essay/ H3 Research Project]

H3 RESEARCH ESSAY**RECORD OF GUIDANCE**

Subject:	Subject Code:
Candidate's Name:	Index Number:
Centre Name:	Centre Number:
Year of Examination:	NRIC / FIN:
2nd compulsory / 3rd optional conference (delete as appropriate)	Date of Conference:
Title of Research Essay:	

The guidance given to this candidate is recorded below.		
Coursework Supervisor's Name:	Signature:	Date:
Candidate's Signature:		Date:

School Stamp

[APPENDIX D]

H3 GEOGRAPHY LEVEL DESCRIPTORS

Level 5

Demonstrates a very thorough, detailed and robust understanding and application of relevant geographical concepts related to the research question. Outlines clearly the relevant methods used to collect primary and/or secondary data. Excellent analysis and evaluation of data as well as clear exemplification of how this evidence contributes to an understanding of the research question. Shows a defined and well organised structure. Communication is coherent and persuasive. Critically assesses a range of evidence, interactions and viewpoints relevant to the research question. Good evaluation of chosen research strategy. The conclusion is well-substantiated, provides excellent exemplification and is clearly focussed on the research question.

Level 4

Demonstrates a clear and perceptive understanding and application of relevant geographical concepts related to the research question. Outlines the relevant methods used to collect primary and/or secondary data. Clear analysis and evaluation of the data as well as exemplification of how this evidence contributes to an understanding of the research question. Organisation is defined and clear and communication coherent and effective. Utilises relevant evidence to support arguments and consider alternative interpretations. Demonstrates an understanding of differing perspectives in regard to the research question and reference is made to a number of these. Evaluates chosen research strategy. The conclusion reached is sound, relevant and well-exemplified. The research question is directly and satisfactorily addressed throughout.

Level 3

Demonstrates a solid understanding of some of the key geographical concepts related to the research question, but exemplification of this understanding may lack detail or relevance at times. Outlines the methods used to collect primary and/or secondary data. An analysis and evaluation of the data are shown as well as exemplification of how this evidence contributes to an understanding of the research question. Evidence used is from a variety of sources and is largely relevant, but may lack depth and breadth in relation to different perspectives on the issue. Exhibits a largely coherent and organised structure. Communication is mostly effective and concise, but displays a lack of clarity in parts. Some evaluation of chosen research strategy attempted. The conclusion may be well argued and concise, but may lack exemplification and a focus on the research question.

Level 2

Demonstrates a limited understanding of the main geographical concepts related to the research question and reference to these may therefore lack detail and relevance in parts. Attempts to outline the methods used to collect primary and/or secondary data, but some methods used may be inappropriate or explanation may be flawed. A basic analysis and evaluation of the data is shown as well as a limited exemplification of how this evidence contributes to an understanding of the research question. Evidence used is from a variety of sources and is mostly relevant, but will lack depth and breadth in relation to different perspectives on the issue. Relevance to the research question is lacking in places and a basic structure is exhibited. Communication may lack clarity at times. An attempt at analysis and interpretation is made but are descriptive in parts and may not focus on the research question. Little or no attempt to evaluate research strategy. Conclusion is present but may lack evidence and exemplification and may not fully address the research question. Overall the research question is only partially addressed.

Level 1

Demonstrates little or no understanding of geographical concepts relevant to the research question. A limited outline of the methods used to collect primary and/or secondary data. Evidence used is from a variety of sources and is largely irrelevant and/or lacks depth and breadth in relation to different perspectives on the issue. Lacks a coherent structure. Communication lacks clarity, depth and coherence. Little analysis or evaluation is present and where seen it is flawed and lacks relevance to the research question. No evaluation of chosen research strategy. A conclusion, if present, is brief and lacks both focus on the research question and exemplification. Overall the research question is not addressed or addressed in a very limited way.