

# Geography

These subject guidelines should be read in conjunction with the “Introduction”, “Outline” and “Details—all essays” sections of this guide.

## Overview

An extended essay in geography provides students with an opportunity to apply a range of skills to produce an independent and in-depth geographical study. The nature of an extended essay in geography is characterized by a spatial emphasis and the application of geographical theory and methodology.

## Choice of topic

It is important that the topic of the essay has a geographical emphasis and is not more closely related to another discipline. It is the task of the supervisor to ensure that the research question leads the student along a path that utilizes appropriate geographical sources, and that encourages the application of relevant geographical concepts, theories or ideas. The essay topic may well relate to an area of the Diploma Programme geography course but this is not a requirement and other areas of the subject may be explored.

The scope of the essay should not be too broad: such essays are rarely successful. The best research questions are well focused, thus encouraging analysis in depth rather than breadth. It is also important that the geographical context of the essay is well established early in the essay.

Investigations carried out at a local scale usually score the highest marks. This narrow focus discourages an over-reliance on published materials and encourages original research. Essays conducted in an area that is familiar and accessible to the student have a much greater chance of achieving success through a more personal involvement, which, in turn, encourages a greater in-depth study.

A sound methodology including the collection of high-quality data is the foundation of a good geography essay. Good data gives the student the scope for the type of in-depth analysis that characterizes the very best pieces of work. It is rare for an essay that is based entirely on published textbooks to score highly.

The following give some indication of the possible range of titles, research questions and approaches that can be considered.

<b>Title</b>	<b>Development disparities in Vietnam</b>
Research question	To what extent does regional development in Vietnam reflect the core–periphery concept?
Approach	Data collection of a range of development statistics for each Vietnamese province allows the construction of the student’s own index of development levels pertinent to Vietnam. Provincial levels of development are mapped and the resulting pattern is compared with the core–periphery model.
<b>Title</b>	<b>Temperature variation in Vienna, Austria in the 20th century</b>
Research question	What temperature variations occurred in Vienna during the 20th century and can these be linked to variations in solar energy output?
Approach	Temperature records for the years 1900–1999 for Vienna are used to establish trends during that period. Variations from the century mean are calculated in order to identify warming and cooling periods. These are then correlated with annual sunspot totals, which are used as an indicator of solar energy output, in order to explain the periodic variations in temperature.
<b>Title</b>	<b>Changes in population structure in the Czech Republic</b>
Research question	How has the fall of communism changed the population structure of the Czech Republic and what will be the social and economic effects of this?
Approach	Population statistics for age cohorts are gathered for the periods before and after 1989, along with data for birth and death rates and life expectancy. Trends in the percentage of population in various groups (active, dependent, young, aged) are established and projected up to the year 2030. Differences in these trends before and after 1989 are noted, and the consequences for the Czech Republic of falling birth rates and an aging population are evaluated.
<b>Title</b>	<b>Differences in quality of life in the city of Geneva, Switzerland</b>
Research question	To what extent does the quality of life in selected communes in the city of Geneva vary with distance from Lac Lemman?
Approach	Six communes are selected, some near the lake and others at a distance away. Three transect lines are drawn through each commune and systematic sampling is carried out with regard to the quality of the environment. A points system is devised using determinants such as landscape quality, litter, vandalism, industry, traffic, noise and air pollution, education and health facilities, shops, restaurants and access to open space. Each commune is given a score that is then correlated with distance from the lake. Published data regarding income levels and house size is also used to determine the quality of life of each commune and again related to distance from Lac Lemman.

## Treatment of the topic

It is important that an extended essay in geography is not seen as just an extended piece of fieldwork. Although there may be some similarities in approach, the extended essay need not place so strong an emphasis on primary field data. In fact, many successful research topics are based on published data. The emphasis, therefore, should be more on written analysis, interpretation, evaluation and the development of an argument than on the techniques of data collection and processing. It is vital that the methodology of the essay is tailored to the research question and allows for an in-depth investigation.

Appropriate resources for an extended essay in geography could include both primary and secondary data—books, newspapers and magazines, interviews, the Internet, maps, aerial photographs and satellite images, digital landscape simulations, video, CD, DVD, GIS, diagrams and models.

The geographical context in which the research is being conducted should be clearly outlined, usually with the aid of one or more maps and, where relevant, photographs or satellite images.

Geographical data is of little value unless it is analysed, using appropriate geographical, statistical, graphical or qualitative techniques, and then critically evaluated.

### Illustrations and maps

It is essential that a geography extended essay is supported by appropriate methods for illustrating information/data, such as diagrams, sketch maps, tables and graphs. Wherever these are derived from other sources, these sources must be acknowledged.

Good essays usually have maps near the start to place the investigation in a clear geographical context. All maps should give an indication of orientation and scale, and include a key. Any maps derived from other sources should be clearly marked with the map reference number and the publisher, and the source of any base maps that have not been constructed by the student should be given. Using only photocopied maps, or those printed from commercial computer software, is rarely effective and provides little evidence of map skills.

The use of sketch maps and labelled or annotated diagrams as support information is highly encouraged. Maps constructed by the student on a computer are to be encouraged and it is a good idea to state the software program used. Hand-drawn maps should be neat and clear, and employ the use of colour shading, a scale and a key where appropriate.

Photographs, if included, should be essential to the essay and not included merely for decoration. As such, they should be labelled or carry a written explanation of the points they are intended to illustrate.

## Interpreting the assessment criteria

### Criterion A: research question

The research question must be focused, appropriate to the subject of geography, give the essay a spatial context and encourage an investigative approach. In geography, many successful essays develop the research question through the formulation of a hypothesis or hypotheses. If students do this, it is important to ensure that hypotheses are well constructed, testable, have a basis in geographical theory and involve appropriate investigative channels. The best essays have a limited number of hypotheses. Too many hypotheses can result in an essay that is unfocused or fragmented.

It is equally acceptable for the research question to examine a geographical issue, conflict or problem, which may be formulated as a proposition or statement for discussion.

The research question must be clearly stated in the abstract and in the introduction. It must be framed in a way that discourages a descriptive or narrative approach, and that encourages argument and discussion.

### **Criterion B: introduction**

It is important to put the research question into a locational and theoretical context. The introduction should, therefore, clearly outline the scale and location of the investigation, and demonstrate how the topic relates to current geographical knowledge and theory. An indication should be given as to why the topic was chosen and why it warrants investigation. The introduction should be clear and concise. Care must be taken to avoid over-lengthy discourses on theoretical background.

### **Criterion C: investigation**

It is important that the investigation uses a range of sources of information that may include data such as those listed in the "Treatment of the topic" section. The information selected must be relevant to the topic and should provide the evidence that will be used to support the argument. The essay must use data/information that is sufficient (in quality and quantity), for example, questionnaires must have enough respondents to make the findings valid. It is not essential, however, that fieldwork data forms the basis of the investigation: published data sources are also valid.

The proper planning of the essay involves the adoption of a methodology that begins with the collection and selection of appropriate information, leads to a systematic analysis with valid results, interpretation and conclusions, and ends with a critical evaluation of the evidence and the approach adopted.

### **Criterion D: knowledge and understanding of the topic studied**

Knowledge and understanding of the theoretical background and an awareness of the academic context are essential to a good essay. This should be achieved through the integration of the student's own ideas with current geographical thought, using both primary and secondary sources.

### **Criterion E: reasoned argument**

Essays that are largely narrative or descriptive cannot score highly on this criterion. The best essays develop an argument, backed up with evidence, to convince the reader of the validity of their findings. The argument may be personal, but at the same time must remain logical and balanced. In geography, evidence may be presented in graphic as well as written form, using appropriate maps, diagrams, sketches, photographs and charts/graphs.

Where relevant, the argument should present evidence that leads towards the acceptance or rejection of the original hypotheses. In the context of the investigation of an issue, conflict or problem, bias should be avoided.

### **Criterion F: application of analytical and evaluative skills appropriate to the subject**

Much of the evidence presented in support of an argument in a geography essay comes from the analysis of data. This involves the use of appropriate analytical techniques and the application of relevant tests of significance. Among the valid techniques characteristic of geographical inquiry are the use of interaction and gravity models, network analysis, correlation techniques, measures of dispersion, sampling techniques and standard error calculations. Where the data is qualitative, appropriate analytical techniques should be employed. The element of personal evaluation is important when interpreting the results of data analysis. The investigation should show some awareness of the authenticity, validity, and limitations of the data and the methods used.

Where data has not been used, the essay must still incorporate a critical analysis and evaluation of the information.

It may be that the results of the analysis are unexpected or do not seem to fit established patterns. Students should not be discouraged by this. Some of the best essays have emerged when students have had to reconsider and re-evaluate their original ideas, and modify their argument accordingly. Such an awareness of the need to make constant adjustments and corrections, and to recognize shortcomings, is an essential element of research.

### **Criterion G: use of language appropriate to the subject**

Geographical terminology and vocabulary must be used accurately and appropriately throughout the essay. It is important to adopt an objective style that avoids lengthy personal statements and opinions, and that communicates geographical information and ideas in a clear and precise manner.

### **Criterion H: conclusion**

The conclusion should synthesize the findings of the investigation and briefly reiterate the evidence relevant to the research question. The essay should state, where relevant, which hypotheses have been accepted or rejected and why. Hypotheses that have been rejected may be modified or replaced, suggesting new avenues of investigation.

The conclusion should critically evaluate the appropriateness of the methodology and acknowledge any flaws or limitations in the investigative process. Any unresolved questions that have arisen from the research should be introduced at this stage.

The conclusion should not be an emotive personal statement relating to an issue, conflict or problem, nor should it introduce new information that has not been discussed in the argument.

### **Criterion I: formal presentation**

This criterion relates to the extent to which the essay conforms to academic standards about the way in which research papers should be presented. The presentation of essays that omit a bibliography or that do not give references for quotations is deemed unacceptable (level 0). Essays that omit one of the required elements—title page, table of contents, page numbers—are deemed no better than satisfactory (maximum level 2), while essays that omit two of them are deemed poor at best (maximum level 1).

All illustrative material referred to in the body of the essay (maps, photographs, field sketches, charts and so on) should be located at relevant points, not collected at the end of the essay or in appendices. It should be well set out, and used to enhance the written text and clarify explanations.

Large data tables, large published maps referred to in the text, transcripts of interviews or an extensive series of calculations should be placed in the appendices. Field notes need not be included as an appendix, although it is a good idea to include one completed form in the case of questionnaires.

Where possible, the title, map reference number, date and publisher should be given for all maps consulted; and the source of all data, diagrams, graphs, charts, tables and photographs must be given.

### **Criterion J: abstract**

The abstract should clearly state the research question; give a brief account of how the investigation was carried out, the methods that were used and the types of information that were gathered; and summarize the findings as stated in the conclusion.

## **Criterion K: holistic judgment**

Qualities that are rewarded under this criterion include the following.

- Intellectual initiative: Ways of demonstrating this in geography essays include formulating a challenging research question, employing innovative or inventive methods of data collection and data analysis, and producing a work of originality.
- Depth of understanding and insight: These are most likely to be demonstrated through the ability of the student to:
  - grasp the theoretical background to the topic and keep it central to the investigation
  - use reflection in the development of the argument and critical evaluation of the essay
  - select and use imaginative illustrative techniques
  - overcome problems that arise
  - modify ideas in light of new evidence.