

IGCSE Geography
Unit 10: Coursework Alternative

Recommended Prior Knowledge

The series of tasks examined by Paper 5 will relate to one or more of the syllabus themes. Students should be made aware of the general requirements of this paper and reference should be made to the range of aspects involved in a geographical study. These include formulating aims and hypotheses, using enquiry skills to collect data, illustrative techniques to present data, making analyses and drawing conclusions.

Context

It is recommended that this is either the last of the units to be studied or that the study of the skills of enquiry is incorporated into the teaching of the core units as appropriate. Where possible, centres should try to offer students some experience, however limited, of the practical aspects involved in data collection. Suggested fieldwork activities and their links to the core units are included in the unit.

Outline

The unit provides a wide range of opportunities to develop students' skills of enquiry within the context of the core themes. It also allows them to put into practice many of the skills acquired during the course.

Learning Outcomes		Suggested Teaching Activities	Resources
5.1	To know and understand the skills of geographical enquiry - questionnaires.	Pupils are introduced to the main stages in geographical enquiry and define key terms such as aim, hypotheses, analysis etc. Pupils understand that there are two main types of data - primary and secondary - and define each term with examples. Pupils understand that the questionnaire is one of the most widely used form of primary data collection and discuss their advantages e.g. up-to-date, can obtain information not available for other sources etc. Pupils understand that questionnaires can be both oral and written and discuss the advantages and disadvantages of both methods. In small groups, pupils devise a questionnaire to investigate an issue from the syllabus themes. As a group, the class should be clear about the aim of the investigation, the hypotheses to be tested and the data required. Examples from the syllabus could include: spheres of influence, the use of services, shopping habits, a farm study, a factory or industrial study, leisure and tourism patterns or public opinion about a local issue. Using their draft questionnaires as a basis for discussion, discuss the common errors in	<p>Question 2 May 1998</p> <p>Question 2 Paper 5 November 1998.</p> <p>Question 2 Paper 5 May 1999</p> <p>Question 2 Paper 5 May/June 2000</p> <p>http://www.zephyrus.demon.co.uk/geography/resources/index.html (Includes: When to use Questionnaires, How to Design Questionnaires, Planning the Fieldwork, Approaching Your Audience, Recording the Data and Data Analysis)</p> <p>http://www.mapnp.org/library/evaluatn/questnrs.htm</p> <p>http://www.statpac.com/surveys</p> <p>http://www.bennett.karoo.net/keywords.html (Select Information Gathering Techniques)</p>

Learning Outcomes	Suggested Teaching Activities	Resources
	<p>questionnaire design and from this, introduce the components of a successful questionnaire. These should include: open and closed questions and their uses, the correct structure of a questionnaire, careful wording and phrasing to avoid bias and ensure clarity, number of questions. The exercise should also be used to reinforce the need for a pilot survey when conducting questionnaires.</p>	<p>Unit 3 (Pages 57-67) Geography IGCSE and HIGCSE Book 4</p>
<p>5.1 To know and understand the skills of geographical enquiry - questionnaires</p>	<p>Pupils are introduced to the key terms - sample and sampling - and brainstorm the reasons why we need to sample e.g. to save cost, to save time, it is often unnecessary to measure every item etc. Pupils understand how to select a sample size for a questionnaire survey and that questionnaires should be asked at a variety of different times and on different days of the week to avoid bias. Pupils are introduced to the main sampling techniques - random, stratified and systematic - and understand how these can be used to select both the sample population and sample sites. The various strategies for questionnaire delivery e.g. personal interview, postal survey etc could be considered here with discussion of their advantages and disadvantages. Pupils could then devise a sampling strategy for their original investigation and conduct the questionnaire survey. Pupils should be aware of the methods available to present their collected data to include: line graphs, bar graphs, divided bar graphs, histograms and maps (choropleth maps and drawing spheres of influence etc). Pupils should then be given opportunities to analyse the data and draw conclusions from it. Where data is not available from a study in the field, use can be made of past examination papers. The use of questionnaires to obtain data from an individual or small group of individuals should also be studied. Examples could include shopkeepers, farmers or hotel owners.</p>	<p>Question 2 May 1998 Question 2 Paper 5 November 1998. Question 2 Paper 5 May 1999 Question 2 Paper 5 May/June 2000</p> <p>http://www.zephyrus.demon.co.uk/geography/resources/index.html (Includes: When to use Questionnaires, How to Design Questionnaires, Planning the Fieldwork, Approaching Your Audience, Recording the Data and Data Analysis)</p> <p>http://www.mapnp.org/library/evaluatn/questnrs.htm</p> <p>http://www.statpac.com/surveys.</p> <p>http://www.bennett.karoo.net/keywords.html (Select Data Processing Techniques)</p> <p>Unit 3 (Pages 66-67) Geography IGCSE and HIGCSE Book 4 Unit 2 (Pages 25 - 34) Geography IGCSE and HIGCSE Book 4</p>

Learning Outcomes	Suggested Teaching Activities	Resources
5.2 To know and understand the skills of geographical enquiry - observation.	<p>Pupils are introduced to observation as an enquiry skill. Pupils understand that observation is a valuable form of primary data collection e.g. field-sketching, recording land use but can also make use of secondary sources such as photographs and land use maps. As with other enquiry skills, pupils should be made aware of the link to aims, hypotheses, data collection, analysis and conclusions. Reference should also be made to methods to record data e.g. on maps and on recording sheets. Suggested areas for investigation include: land use, function of buildings, size, range and accessibility of shopping centres, changes in the weather between seasons, the influence of slope upon natural and human activity, agricultural land use, the layout of a farm or tourist resort and the competing demands for a local water resource.</p>	<p>http://www.bennett.karoo.net/keywords.html (Select Information Gathering Techniques)</p> <p>http://www.georesources.co.uk/ (Select virtual fieldwork to give a number of opportunities for observation)</p> <p>Unit 3 (Pages 67 - 71) Geography IGCSE and HIGCSE Book 4 Unit 2 (Pages 44 - 46) Geography IGCSE and HIGCSE Book 4</p>
5.3 To know and understand the skills of geographical enquiry - counting.	<p>Pupils are introduced to counting as a skill of enquiry and brainstorm where this technique could be used e.g. pedestrian counts, traffic counts, visitor numbers to a tourist facility etc. Pupils should be able to relate the data collection to an aim and set of hypotheses e.g. to investigate variations in visitor numbers to a local attraction during a week. Using an example which is local to the centre, pupils devise a recording sheet and a set of instructions to recorders e.g. a simple traffic survey. Discuss the importance of data being collected according to a set of agreed instructions e.g. traffic of different categories, travelling in which direction, agreed time interval. Pupils should be introduced to the various methods that can be used to present the data e.g. isoline maps, flow diagrams and scatter graphs. When considering pedestrian counts e.g. investigating shopping patterns in a CBD, consideration should be given to static and moving counts. Pupils should also have opportunities to analyse the data collected and draw conclusions from it. The conclusions should be related back to the original aim of the investigation.</p>	<p>Question 2 Paper 5 November 1999.</p> <p>Question 2 Paper 5 May 1998</p> <p>Question 2 Paper 5 October 2000</p> <p>Unit 3 (Pages 71-74) Geography IGCSE and HIGCSE Book 4 Unit 2 (Pages 38 - 39) Geography IGCSE and HIGCSE Book 4</p> <p>Essential Mapwork Skills Pages 12 - 17</p> <p>http://nces.ed.gov/nceskids/graphing/</p>

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5.4	To know and understand the skills of geographical enquiry - measurement techniques	Pupils understand the methods and techniques that are required to measure the following: river cross section, the gradient of a river's course, the speed of flow, changes in depth over a short period of time and the size and shape of bedload. Pupils should relate the data collection to aims and hypotheses and be able to calculate the following from the data collected: cross sectional area, speed of flow and discharge. Reference should be made to appropriate sampling techniques e.g. points downstream chosen systematically, a sample of bedload chosen using a quadrat etc.	<p>http://www.zephyrus.demon.co.uk/geography/resources/index.html (Covers nearly all areas including: River Gradient, Cross Sections, Discharge, Friction, Velocity)</p> <p>http://www.georesources.co.uk/ (Select Virtual Fieldwork for a River Study)</p> <p>Question 1 Paper 5 May 1999</p> <p>Question 1 Paper 5 October 2000</p> <p>Unit 3 (Pages 74 - 77) Geography IGCSE and HIGCSE Book 4</p>
5.4	To know and understand the skills of geographical enquiry - measurement techniques	Pupils understand the methods and techniques required to measure the following: the profile of a beach, the size and shape of pebbles using calipers, the movement of beach material and the direction of the waves. For both coastal and river measurement , pupils should be familiar with the appropriate method of using: quadrats for selecting pebbles, a clinometer for slope angle and a pebbleometer, ruler of calipers for measuring pebbles. Pupils draw fully annotated diagram to show how the equipment is used and discuss any limitations. For both sections, pupils should be able to analyse data and explain their findings by relation to Unit 2.1.	<p>http://www.zephyrus.demon.co.uk/geography/resources/index.html (Some detail of equipment e.g. clinometers)</p> <p>Question 1 Paper 5 November 1998</p> <p>Unit 3 (Pages 77 - 80) Geography IGCSE and HIGCSE Book 4</p>
5.4	To know and understand the skills of geographical enquiry - measurement techniques	Pupils define the key term weather and brainstorm aspects of the weather that can be measured e.g. temperature, precipitation, wind speed, cloud cover and type, wind direction, humidity, atmospheric pressure, sunshine. Pupils are introduced to the instruments and scales that are used to measure the weather to include: rain gauge, maximum/minimum thermometer, wet and dry bulb thermometer, barometer, anemometer and wind vane, Beaufort Scale, barometer etc. For each instrument, pupils	<p>Longman Geography for GCSE Page 82 and 83. Question2 Page 102.</p> <p>http://www.bbc.co.uk/education/gcsebitesize/index.shtml (Select Elements of Weather)</p> <p>http://geography.about.com/ (Select Weather and Climate for useful articles on recording weather)</p>

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	<p>draw a sketch and label the main features to show how it operates and the scale that is used. Pupils explain the optimum siting for each of the instruments. Pupils use instruments to keep daily records of the weather from observation, measurement or by use of a data-logging weather station, which can be compared over a period of time or between seasons. Opportunities for pupils to use a wide variety of skills to present weather data. Suggestions include: weekly/monthly climate graph (<i>bar and line graphs</i>) which could be compared and contrasted with secondary data. Calculate the average temperature (<i>mean, mode, median</i>). Construct wind speed graphs and wind direction rose diagram. Opportunity for centre-based fieldwork to investigate local climate conditions. Pupils use instruments and observation to record the weather at different sites around school, present the data (graphically and cartographically e.g. isolines) and describe and explain the differences found.</p>	<p>http://www.bbc.co.uk/weather/weatherwise/diy/thingstodo.shtml</p> <p>Question 4 Paper 1 November 1998</p> <p>Question 3 Paper 1 May 1998</p> <p>Question 4 Paper 1 June 2000</p> <p>Question 4 Paper 1 November 1999</p> <p>Question 3 Paper 3 May 1998</p> <p>Question 1 Paper 5 November 1999</p> <p>Question 1 Paper 5 May 1998</p> <p>Question 1 Paper 5 May/June 2000</p> <p>Unit 3 (Pages 81 - 83) Geography IGCSE and HIGCSE Book 4</p>