Section C - Practical Geographical Enquiry

Throughout their course, learners need to acquire a range of geographical skills through fieldwork and linked practical exercises.

Fieldwork is integral to the enquiry process that underpins the qualification.

The Field Studies Council (FSC) and Ofsted (2011 subject report) both support the view that good and regular fieldwork motivates learners and enhances their understanding of geography. There is also evidence that fieldwork encourages a higher than average take-up of academic qualifications.

Fieldwork and enquiry skills should include:

- **pre-fieldwork planning** – designing a fieldwork investigation, as per the qualification content
- **primary field skills** – undertaking a field investigation; the need for sampling, data collection and recording techniques
- **presentation, analysis, conclusions and evaluation skills** – using the range of data presentation techniques; analysis of data and drawing conclusions; evaluating the techniques used and the conclusions drawn.

These concepts are shown more fully in the *Suggested fieldwork opportunities* diagram on page 15.

Fieldwork and exceptional circumstances

Edexcel recognises that for some centres and/or individuals, fieldwork (specifically *first hand data collection activities*) can be constrained by:

(i) geographical location/physical nature of the region
(ii) cultural/religious exceptions
(iii) illness
(iv) physical disability, or
(v) security.

In these rare circumstances other fieldwork data could be used instead, eg from another agency/organisation, books/magazines or from other learners who were able to collect the data themselves (including from previous cohorts). More examples of other sources of fieldwork data, including relevant websites, can be found in Edexcel International GCSE in Geography teacher support materials. All other aspects of the enquiry process should *remain unchanged* for those learners (Stages 1-3 and 5-7 in the enquiry process) who have not collected their own data. These learners should work with the substitute data, eg graphing, analysis, conclusions, evaluations etc, as if it were their own.

When exceptional circumstances are employed as part of the fieldwork process, *either* for an individual, group or cohort, centres must justify their particular circumstances to Edexcel through contact with Edexcel’s Ask the Expert Service or the Geography Subject Advisor both available from www.edexcel.com/Subjects/Geography/Pages/Default.aspx.
Practical geographical enquiry process

Stages

1. Identification of the question
2. Contextualising the fieldwork
3. Design: Where and how many?
4. Equipment considerations; how to record. Primary data collection
5. Data collation and suitable presentation
6. Analysis and conclusions
7. Evaluating the process and results

Details and additional notes

1. What are the possible fieldwork opportunities* presented by this environment(s)? Are they practical, realistic or achievable given the circumstances of the locations etc?
2. Research into relevant background information (internet/ICT, magazines, books), ie secondary information and/or data. Opportunity to develop own ideas and models* or use existing ones. Development of predictions, hypotheses and/or suitable questions.
3. Number of fieldwork sites* (practically); group or individual work. Consideration of appropriate sampling procedures (systematic vs random vs stratified) and sample size. Consideration of H&S + undertake risk assessments*.
4. Selection and use of appropriate equipment* to ensure accuracy and reliability. Development of recording sheets to undertake the investigation.
5. Use of ICT to manage data and collate information, eg shared spreadsheets and VLE/ ‘cloud’ to store for easy retrieval. Using ICT and/or hand-drawn graphs/diagrams to present information in a suitable way*.
6. Describe the findings*, explain possible reasons and make links between patterns etc. Simple statistics may be relevant, eg measures of central tendency when there is sufficient quantitative data. Students should return to the original predictions/hypotheses.
7. A review of the fieldwork process (including any additional research information). Comments on the accuracy, validity and reliability of the conclusions*.

Notes:

a) Stages 1-3 should form part of the fieldwork planning process, before data collection
b) * Indicates that there are strong links with assessment. Section C questions will normally use unseen information but in environments that have been studied.
Health and safety in the field

All centres must comply with local and national rules, laws and good practice relating to health and safety. For example, the requirements of relevant legislation and codes of practice, including the Department for Education Health and Safety Guidance for Schools and Health and Safety Executive – School Trips and Outdoor Learning Activities.

Centres must ensure safe working is an inherent part of practical learning, for example learners know and understand the importance of ensuring their own safety and that of others. This could involve learners developing risk assessments as part of the preparation for fieldwork (Stage 3 – Design), for example by using Google Maps and Google StreetView to assess likely hazards and/or risk.

Health and safety learning must include the concepts of:

- **Hazard** = the danger that could reasonably be expected to cause harm, eg contact with slippery rocks next to a stream
- **Impact/severity** = how someone might be harmed
- **Risk** = the chance that someone will be harmed by a particular hazard, eg a fall, slip or trip.

For example, a Risk Rating can be developed, based on likelihood and severity (or worst case outcome); whilst working in a river the likelihood of slipping on wet rocks may be described as ‘infrequent’ (a score of 3/5), whilst the severity could be ‘injury’ (a score of 3/5). These two together give a risk-rating score of 9/25 (3 x 3/5 x 5), which would indicate that a control should be in place to minimise the chance of injury through slipping.

Additional support on this aspect of the specification is available in the Edexcel International GCSE in Geography teacher support materials.

Assessment of fieldwork skills

Fieldwork opportunities are assessed in Section C of the examination paper. Students must be able to demonstrate fieldwork skills and competencies related to each of the selected topics.

*It is recommended that students undertake a minimum of two fieldwork opportunities per selected topic (a total of eight fieldwork opportunities).*

In the examination, questions may be asked on any given four of the six topics from Sections A and B: two from Section A and two from Section B. Candidates will *select two questions* which will be based around the enquiry process; one from Section A and one from Section B.

As part of – and in addition to – undertaking the geographical enquiry, students should acquire and be able to apply the following skills:

**Practical skills**

- **graphical skills** – compiling graphs and flow lines; using proportional symbols; annotating maps; diagrams and photographs
- **map skills** – with particular reference to maps (including digital maps): using grid references; understanding scales; recognising symbols; identifying landforms and human features of the landscape
- **photo-interpretation skills** – reading vertical and oblique aerial photographs and satellite images, including GIS
- **sketching skills** – communicating ideas through simple sketch maps and field sketches
- **spatial awareness** – identifying the relative locations and relationships between features.
• Cognitive enquiry skills

• **analysis of findings** – reviewing and interpreting quantitative and qualitative information using appropriate media

• **use of statistical skills** – simple descriptive statistics, such as lines of best fit, means, medians, modes etc

• **conflict resolution skills** – identifying the views of interested people (stakeholders), recognising that stakeholders may have strongly different attitudes and feelings towards a particular issue

• **evaluation of findings** – appraisal and review of data and information, to see if these are accurate, suitable for the purpose or misleading and unreliable.

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**Suggested fieldwork opportunities**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Suggested fieldwork opportunities</th>
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<tbody>
<tr>
<td><strong>SECTION A</strong></td>
<td></td>
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</table>
| 1 River environments | Measuring water quality  
| | Measuring channel characteristics  
| 2 Coastal environments | Measuring beach profiles and sediment characteristics  
| | Investigating the conflicts between development and conservation on a stretch of coastline  
| 3 Hazardous environments | Measuring and recording weather data  
| | Investigating people’s views on the management of a hazard event (river flooding, coastal retreat, tropical storms or tectonic events)  
| **SECTION B** |
| 4 Economic activity and energy | Investigating the location factors of factories or services  
| | Investigating people’s conflicting views on the use and impacts of renewable and non-renewable energy  
| 5 Ecosystems and rural environments | Investigating a small-scale ecosystem or rural aid project  
| | Investigating how a farm works as a system  
| 6 Urban environments | Investigating change in environmental quality survey  
| | Investigating change in land use |