



**General Certificate of Education**

**Geography 2030**

**GEO4A      Geography Fieldwork  
Investigation**

**Post-standardisation**

**Mark Scheme**

*2011 examination – January series*

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this Mark Scheme are available to download from the AQA Website: [www.aqa.org.uk](http://www.aqa.org.uk)

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As required by QCA, the marking scheme for this unit includes an overall assessment of quality of written communication. There are no discrete marks for the assessment of written communication but where questions are "Levels" marked, written communication will be assessed as one of the criteria within each level.

**Level 1:** Language is basic, descriptions and explanations are over simplified and lack clarity.

**Level 2:** Generally accurate use of language; descriptions and explanations can be easily followed, but are not clearly expressed throughout.

**Level 3:** Accurate and appropriate use of language; descriptions and explanations are expressed with clarity throughout.

### **Marking – the philosophy**

Marking should be positive rather than negative.

### **Mark schemes – layout and style**

The mark scheme for each question will have the following format:

- a) Notes for answers (nfa) – exemplars of the material that might be offered by candidates
- b) Mark scheme containing advice on the awarding of credit and levels indicators.

### **Point marking and Levels marking**

- a) Questions with a mark range of 1-4 marks will be point marked.
- b) Levels will be used for all questions with a tariff of 5 marks and over.
- c) Two levels only for questions with a tariff of 5 to 8 marks.
- d) Three levels to be used for questions of 9 to 15 marks.

### **Levels Marking – General Criteria**

Everyone involved in the levels marking process (examiners, teachers, students) should understand the criteria for moving from one level to the next – the “triggers”. The following general criteria are designed to assist all involved in determining into which band the quality of response should be placed. It is anticipated that candidates’ performances under the various elements will be broadly inter-related. Further development of these principles will be discussed during Standardisation meetings. In broad terms the levels will operate as follows:

#### **Level 1: attempts the question to some extent (basic)**

An answer at this level is likely to:

- display a basic understanding of the topic
- make one or two points without support of appropriate exemplification or application of principle
- give a basic list of characteristics, reasons and attitudes
- provide a basic account of a case study, or provide no case study evidence
- give a response to one command of a question where two (or more) commands are stated eg “describe and suggest reasons”
- demonstrate a simplistic style of writing perhaps lacking close relation to the terms of the question and unlikely to communicate complexity of subject matter
- lack organisation, relevance and specialist vocabulary
- demonstrate deficiencies in legibility, spelling, grammar and punctuation which detract from the clarity of meaning.

**Level 2: answers the question (well/clearly)**

An answer at this level is likely to:

- display a clear understanding of the topic
- make one or two points with support of appropriate exemplification and/or application of principle
- give a number of characteristics, reasons, attitudes
- provide clear use of case studies
- give responses to more than one command eg “describe and explain..”
- demonstrate a style of writing which matches the requirements of the question and acknowledges the potential complexity of the subject matter
- demonstrate relevance and coherence with appropriate use of specialist vocabulary
- demonstrate legibility of text, and qualities of spelling, grammar and punctuation which do not detract from the clarity of meaning.

**Level 3: answers the question very well (detailed)**

An answer at this level is likely to:

- display a detailed understanding of the topic
- make several points with support of appropriate exemplification and/or application of principle
- give a wide range of characteristics, reasons, attitudes
- provide detailed accounts of a range of case studies
- respond well to more than one command
- demonstrate evidence of discussion, evaluation, assessment and synthesis depending on the requirements of the assessment
- demonstrate a sophisticated style of writing incorporating measured and qualified explanation and comment as required by the question and reflecting awareness of the complexity of subject matter and incompleteness/ tentativeness of explanation
- demonstrate a clear sense of purpose so that the responses are seen to closely relate to the requirements of the question with confident use of specialist vocabulary
- demonstrate legibility of text, and qualities of spelling, grammar and punctuation which contribute to complete clarity of meaning.

**Mechanics of marking**

- Various codes may be used such as: ‘rep’ (repeated material), ‘va’ (vague), ‘NAQ’ (not answering question), ‘seen’, etc.
- Unless indicated otherwise, always mark text before marking maps and diagrams. Do not give double credit for the same point in text and diagrams.

The aim(s) of the investigation are expected to be set out clearly. No credit is allocated for this statement.

<p><b>1(a)</b></p> <p><b>AO1 - 2</b> <b>AO2 - 3</b> <b>AO3 - 3</b></p>	<p><b>Notes for answers</b></p> <p>The method selected must relate to the investigation. Only one method is required or one group of related methods. Any appropriate method is acceptable. Allow sampling if related to data collection and/or aim.</p> <p><b>Mark scheme</b></p> <p><b>Level 1 (1 – 4 marks) (mid point 3 marks)</b></p> <p>There is likely to be a description of the method selected. This will be basic at the lower end, more structured at the upper end of the band. There will be no reference to the fieldwork undertaken at the lower end, with some, basic, reference at the upper end of the band. There may be a simple attempt to assess the relevance of the method to the aim(s) at the upper end of the band. Simple description of sampling/or method only.</p> <p><b>Level 2 (5 – 8 marks) (mid point 7 marks)</b></p> <p>There will be clear explanation of the relevance of the method selected to the aim(s). There will be increasing rigour demonstrated. There will be increasingly clear and convincing reference to the fieldwork undertaken.</p>	<p><b>(8 marks)</b></p>
<p><b>1(b)</b></p> <p><b>AO1 - 2</b> <b>AO2 - 3</b> <b>AO3 - 3</b></p>	<p><b>Notes for answers</b></p> <p>Any relevant method can be used, but it must be that selected in (a). Reference to the effectiveness of this method, which may include strengths, limitations, and the candidate's experience in the field. Relevant comments on the sampling frame, with reference to effectiveness, may be made.</p> <p><b>Mark scheme</b></p> <p><b>Level 1 (1 – 4 marks) (mid point 3 marks)</b></p> <p>There will be a basic awareness of effectiveness of the method selected. There is likely to be a strong focus on the <b>strengths and/or weaknesses</b>, the techniques focus on limitations rather than an evaluation of the effectiveness. There will be basic reference to effectiveness and the candidate's own fieldwork experience is unlikely to be mentioned.</p> <p><b>Level 2 (5 – 8 marks) (mid point 7 marks)</b></p> <p>There will be (clear) reference to both effectiveness and evaluation but there is likely to be an imbalance. This will be very marked at the lower end, perhaps with implicit links, whereas, at the upper end, there will be clear evaluation of the effectiveness of the method selected, linking to the fieldwork experience undertaken, increasingly up through the band. Reference to outcomes is likely.</p>	<p><b>(8 marks)</b></p>

<b>2</b>	<b>Notes for answers</b>	<b>(12 marks)</b>
<b>AO1 - 2</b> <b>AO2 - 4</b> <b>AO3 - 6</b>	<p>Any technique of data <u>analysis</u> can be used, but the technique selected must be related to the investigation. The most likely techniques are statistical tests, but the use of an alternative technique, if justified to show data analysis, will be acceptable, e.g. choropleth or isoline maps.</p> <p>The answer should describe how the technique was used in analysis and a justification of its inclusion in this investigation.</p> <p>The use of diagrams or part worked examples could be a suitable way of describing how the technique of data analysis was used. The responses are likely to describe how the technique of data analysis is appropriate to the investigation and may well refer to the aims. For example, two variables to be related will provide opportunity for the use of Spearman. Unpaired data sets may lend themselves to Mann Whitney or broad comparative data to Chi<sup>2</sup>.</p> <p>There is the requirement to justify the technique of data analysis and why it is appropriate for this investigation, e.g. whether the result was significant or not and what that would mean for the interpretation of this investigation. The focus is on the technique of data analysis.</p> <p><b>Mark Scheme</b></p> <p><b>Level 1 (1 – 5 marks) (Mid point 3 marks)</b></p> <p>Basic identification and description of a technique of data analysis. There is no justification for inclusion in the investigation. The technique may not be related to the investigation. No reference to the candidate's own fieldwork investigation.</p> <p><b>Level 2 (6 – 10 marks) (mid point 8 marks)</b></p> <p>Clear description of a technique of data analysis. There is a clear understanding of the use of the technique. Some justification of its inclusion in the investigation. There may be some reference to the results of the analysis. There is clear reference to the candidate's own fieldwork investigation.</p> <p><b>Level 3 (11 – 12 marks) (mid point 12 marks)</b></p> <p>There is a detailed account of the technique, justifying its inclusion in the investigation, with convincing reference to the candidate's own fieldwork. The role in analysis will be apparent. Thinks like a geographer.</p>	

<p><b>3</b></p> <p><b>AO1 - 2</b> <b>AO2 - 4</b> <b>AO3 - 6</b></p>	<p><b>Notes for answers</b></p> <p>There will be a focus on the usefulness of the investigation and how this relates to the geographical understanding of the candidate. Usefulness can be assessed in a number of ways, including reference to the results, conclusions drawn, the underpinning theory and the choice of the location, all of which can be related to the candidate's own perspective with regard to their own personal geographical development and understanding. The assessment may be positive or negative or balanced. Reference to the usefulness of the learning process involved in interpreting data is also relevant.</p> <p><b>Mark Scheme</b></p> <p><b>Level 1 (1 – 5 marks) (mid point 3 marks)</b></p> <p>There will be a basic reference to the results, with little, if any, reference to usefulness of the investigation. The results/conclusions may be described in some detail, but the assessment of the usefulness will be lacking. There will be little evidence of the candidate's own understanding of geography.</p> <p><b>Level 2 (6 – 10 marks) (mid point 8 marks)</b></p> <p>There will be some attempt at assessment or explanation of the usefulness, with clear reference to the results/conclusions, with some relevance to the candidate's understanding of geography. There will be clear reference to the candidate's own fieldwork. There will be some imbalance between assessment/explanation and usefulness.</p> <p><b>Level 3 (11 – 12 marks) (mid point 12 marks)</b></p> <p>There is detailed reference to the <b>assessment of the usefulness</b> of the investigation to the candidate's understanding of the subject. There will be convincing reference to the candidate's own fieldwork, with effective use of relevant data. Alternatively, commentary showing a synoptic element which will include reference to understanding of the connections between different aspects of geography is to be credited. Thinks like a geographer.</p>	<p><b>(12 marks)</b></p>
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<p><b>4(a)</b></p> <p><b>AO1 - 1</b> <b>AO2 - 3</b> <b>AO3 - 4</b></p>	<p><b>Notes for answers</b></p> <p>Candidates may refer to one or both of the sources and may also develop cases via such data.</p> <p>Logarithmic scales are divided into a number of cycles, each representing a 10-fold change in the range of values, e.g 0.01 to 0.1; 0.1 to 1.0; 1.0 to 10; 10 to 100 etc.</p> <p>These graphs do have some limitations. Thus, zero cannot be plotted, neither can positive and negative values on the same graph. The lines are spaced in each cycle according to the logarithms of the numbers 1 to 10.</p> <p>Graphs can have 1 or 2 logarithmic axes, known as log/normal (semi-logarithmic graphs, with one axis arithmetic) as in Figure 1b or log/log (logarithmic graphs, both axes logarithmic) as in Figure 1a.</p> <p>They are useful for plotting:</p> <ol style="list-style-type: none"> <li>1. rates of change, a faster rate of change is shown by a steeper line gradient</li> <li>2. comparisons between rates of change</li> <li>3. a wider range of data can be displayed in comparison with similar-sized arithmetic graph paper</li> <li>4. increased detail on smaller values as the larger values are depressed to the eye. Small values occupy a larger proportion of the scale in comparison with larger values.</li> </ol> <p>A constant proportional rate of change, an exponential change, shows as a straight line on semi-log graphs, but a curved line on arithmetic graphs, for example, world population growth. There is the opportunity to broaden the discussion by means of reference to the data itself. Candidate may refer to usefulness via limitations but reference must be to usefulness.</p> <p><b>Mark Scheme</b></p> <p><b>Level 1 (1 – 4 marks) (mid point 3 marks)</b></p> <p>There is a basic description of the type of scale selected and what they are used to show. There will be little reference to the figures or to the usefulness of the scales in presenting the data.</p> <p><b>Level 2 (5 – 8 marks) (mid point 7 marks)</b></p> <p>There will be a <b>clear summary and explanation of the usefulness</b> of the scale selected in presenting data. This may be theoretical at the lower end of the band, rather than referring to Fig 1a or 1b. <b>Reference to the figures</b> will be clear and <b>explanatory</b>.</p>	<p><b>(8 marks)</b></p>
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<p><b>4(b)</b></p> <p><b>AO1 - 1</b> <b>AO2 - 3</b> <b>AO3 - 8</b></p>	<p><b>Notes for answers</b></p> <p>There is a variety of graphical techniques and skills that are relevant here. The specification lists line graphs, bar graphs, scattergraphs, triangular graphs, kite and radial graphs, logarithmic scales and dispersion graphs. Pie charts and proportional divided circles are also listed.</p> <p>Candidates are free to make reference to logarithmic scales as in Figure 1.</p> <p>A possible answer may include reference to a number of the above techniques. It is likely that candidates will refer to the varying nature of the data to be presented and then go on to assess the importance of having a variety of graphs to use to depict these data effectively, e.g. continuous data should best be shown on line graphs, discrete on bars.</p> <p>Arithmetic and logarithmic scales could also be covered and assessed.</p> <p>Comment may include reference to the visual effectiveness of the graphs used and to the importance of having variety to keep interest alive.</p> <p>Geographical understanding is aided by the use of the most appropriate technique.</p> <p><b>Mark Scheme</b></p> <p><b>Level 1 (1 – 5 marks) (mid point 3 marks)</b></p> <p>There is a basic description of the variety of techniques and what they can be used to show. One technique may be covered more strongly than others, so there may be some imbalance. There will be little reference to the importance of the variety.</p> <p><b>Level 2 (6 – 10 marks) (mid point 8 marks)</b></p> <p>There will be a clear summary of the techniques, with an attempt <b>at an explanation</b> of the importance of using a variety of techniques for presenting data. This may be theoretical, rather than referring to examples and the links to geographical understanding. There may be greater knowledge shown on some techniques than others.</p> <p><b>Level 3 (11 – 12 marks) (mid point 12 marks)</b></p> <p>There will be a detailed summary of the importance of the variety of techniques to show data, including reference to relevant examples. There will be a detailed explanation of the link to geographical understanding. Thinking like a geographer.</p>	<p><b>(12 marks)</b></p>
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