

Version 1.0



**General Certificate of Education
June 2010**

Geography

GEO4A

Geography Fieldwork Investigation

Unit 4A

Mark Scheme

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

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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:

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

Point marking and Levels marking

- Questions with a mark range of 1-4 marks will be point marked.
- Levels will be used for all questions with a tariff of 5 marks and over.
- Two levels only for questions with a tariff of 5 to 8 marks.
- 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 e.g. "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.

1	Notes for answers	(10 marks)
AO1 - 2 AO2 - 3 AO3 - 5	<p>There should be reference to the reasons for the selection of the aim; this is likely to include an explanation of the selection of the location, what made it suitable and why this was so. Reference to the underpinning theory would therefore be relevant to explain why the aim was selected, and this may be linked to the suitability of the location. There is likely to be a multi-layering of response, explaining why the aim was selected, possibly referring to the location and theoretical context either separately or jointly. Other reasons are also acceptable, such as restrictions of resources (people and/or equipment), risk assessment, time available etc.</p> <p>Mark scheme</p> <p>Level 1 (1 – 4 marks)</p> <p>The candidate will be unclear about the aim and why it was selected. There will be some reference to the aim, though this will be descriptive, rather than explanatory. Reference to the candidate's own fieldwork will be absent at the lower end, though there may be some implicit reference at the upper end of the band.</p> <p>Level 2 (5 – 8 marks)</p> <p>There will be clear reference to an explanation for the selection of the aim. The reasons for the selection of the aim will be well covered, but location will be present at the expense of theory, or vice versa. This imbalance will be marked at the lower end and less so at the upper. There will be reference to the candidate's own fieldwork, with greater conviction towards the upper end of the band.</p> <p>Level 3 (9 – 10 marks)</p> <p>There will be detailed and convincing reference to the reasons for the selection of the aim. It will be evident that the candidate has undertaken the fieldwork.</p>	

2 AO1 - 2 AO2 - 2 AO3 - 4	<p>Notes for answers</p> <p>The answer is likely to include reference to the importance of completing a risk assessment before undertaking work in the field. Types of risk assessment documentation and how risk is assessed could be covered; this may be before the investigation is undertaken and also in the field. The value of a preparatory visit to the area and/or testing any equipment to be used as a part of risk assessment could be discussed. The use of group data and the security it provides may also feature; this might include the composition of a group in some cases. There will be continuous risk monitoring as the fieldwork data is collected, leading to modifications of the actual data collection, e.g. a rapid increase in river volume, unforeseen bad weather or emergency roadworks affecting traffic flow and access to and in town centres. The response should cover the measures taken to minimise the risks identified and their justification.</p> <p>Mark Scheme</p> <p>Level 1 (1 – 4 marks)</p> <p>There will be description of the risk assessment measures, in advance and/or in the field; documentation may be mentioned. Attempts to show how the risks are minimised and justification will be limited. There will be minimal reference to the candidate's own fieldwork.</p> <p>Level 2 (5 – 8 marks)</p> <p>Risk assessment measures will be described well, demonstrating a clear understanding of the processes involved. There will be a clear attempt to show how the risks were minimised and these measures will show justification. There may be imbalance between the minimising of risk and their justification at the lower end. Clear reference to the candidate's fieldwork investigation will be present.</p>	(8 marks)
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3 AO1 - 2 AO2 - 2 AO3 - 6	<p>Notes for answers</p> <p>Any technique of analysis can be used, but the technique selected must be related to the investigation. Statistical tests may be used, but the use of any alternative technique, if demonstrating analysis, will be credited.</p> <p>The answer should identify the technique used and explain how the data collected made it appropriate to this investigation.</p> <p>The use of diagrams or part worked examples would be a suitable way of showing how the technique was appropriate. The responses are likely to then show how the type of data is appropriate for the technique. This is likely to follow from the aims. For example, an aim with two variables to be related is likely to provide opportunity for the use of Spearman. Unpaired data sets may lend themselves to Mann Whitney or broad comparative data to Chi².</p> <p>There is the opportunity to assess how far the technique was appropriate for this data, e.g. whether the result was significant or not and what that would mean for the analysis of these data.</p> <p>Mark Scheme</p> <p>Level 1 (1 – 4 marks)</p> <p>Basic identification and description of a technique of data analysis. There may be no reference to the aim, nor how far the data lent itself to interpretation by the use of this technique. The technique may not be related to the aim. No reference to the candidate's own fieldwork investigation.</p> <p>Level 2 (5 – 8 marks)</p> <p>Clear identification of a relevant technique, linked to the aim. There is a clear description of the use of the technique and an attempt to explain how this was appropriate to use for the data collected. There may be some reference to the results of the analysis. There is clear reference to the candidate's own fieldwork investigation.</p> <p>Level 3 (9 – 10 marks)</p> <p>There is a detailed account of the use of the technique, applied to this investigation, with convincing reference to the candidate's own fieldwork. The results of the analysis are assessed in the light of data collected and appropriateness of the technique used in the investigation. This link is expected.</p>	(10 marks)
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4 AO1 - 2 AO2 - 5 AO3 - 5	<p>Notes for answers</p> <p>AO1 - 2 There will be a focus on the success of the investigation and this will be linked to the aim. The success can be evaluated in a number of ways, including reference to the conclusions, the underpinning theory and the choice of the location. In addition, there may be reference to the candidate's own perspective on the success of the investigation with regard to their own personal geographical development.</p> <p>Mark Scheme</p> <p>Level 1 (1 – 5 marks)</p> <p>There will be a basic reference to the conclusions, with little, if any reference to evaluation. The conclusions may be described in some detail, but evaluation will be lacking. References to theory will be limited to the upper end of the band and may not be strongly linked to the aims. There will be little evidence of the candidate's own fieldwork. There may be straightforward reference to improvements and/or extensions.</p> <p>Level 2 (6 – 10 marks)</p> <p>There will be a clear attempt at evaluation, with clear reference to the conclusions, linked to the aims. The underpinning theory will also be related and there is likely to be reference to the location. There will be clear reference to the candidate's own fieldwork. There may be clear reference to improvements and/or extensions.</p> <p>Level 3 (11 – 12 marks)</p> <p>There will be a well developed evaluation, with detailed reference to the conclusions. Reference to the aims and underpinning theory will be in some detail and the references to location will be well interpreted. Reference to the candidate's own fieldwork will be detailed and convincing. Improvements and / or extensions will be detailed. There will be evidence that the candidate is "thinking like a geographer".</p>	(12 marks)
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5 (a)	Notes for answers	(12 marks)
AO1 - 1 AO2 - 4 AO3 - 7	<p>This involves an assessment of both triangular graphs and divided pie charts (as on Figure 1b).</p> <p>Triangular graphs show data on three axes, allowing three variables to be plotted, shown by one point. It is the only graph that can do this. The axes are scaled from 0 – 100 in a clockwise direction (this can be reversed). It can only be used for three sets of data that are expressed in % format and that totals 100.</p> <p>A triangular graph presents the data in a very different way, showing clusters of points which have similar characteristics and thus are different from the other clusters. The data in Figure 1b enables each of the areas 1 - 4 to be located in a different part of the graph. Further data would be necessary to plot more points to establish whether these data are typical of the characteristics of urban areas. If the clusters of points are reinforced, this may well be the case. Thus, comparisons can be made about the three components and the areas, but if they are not located on a map, so the spatial element is lost.</p> <p>Divided pie charts give a clear visual impression of the relative proportions of the components, though actual amounts are not specifically shown. The components can be plotted as whole numbers or a % (as in this case) converted to a proportion of 360° of the circle. Thus, comparisons can be made between individual charts and similarities and differences in proportions identified. In this way, spatial patterns in the distributions can also be identified.</p> <p>The technique depicts a great deal of information, so is very complex. The example shown has three components in four charts (12 items of data). This can make interpretation of data quite challenging.</p> <p>These techniques emphasise different elements of the data and so can be seen as complementary. The candidate can suggest any viewpoint that is well argued.</p>	

Mark Scheme		
	<p>Level 1 (1 – 5 marks)</p> <p>There is a basic description of the techniques and what they are used to show. One technique may be covered more strongly than the other, so there may be some imbalance. There will be little reference to the suitability of the techniques to show the data.</p> <p>Level 2 (6 – 10 marks)</p> <p>One technique can access Level 2. There will be a clear summary of the strengths and weaknesses of the the techniques, with an attempt at an evaluation of the suitability for presenting this data. This may be theoretical, rather than referring to Figure 1b. There may be greater knowledge shown on one technique than the other, but this imbalance will decrease towards the upper end of the mark band.</p> <p>Level 3 (11 – 12 marks)</p> <p>There will be a detailed summary of the suitability of the techniques to show these data, including a detailed assessment of the strengths and weaknesses. This will be well applied to Figure 1b and a well argued evaluation of the suitability of the techniques offered. There will be evidence that the candidate is “thinking like a geographer”.</p>	

5 (b)	Notes for answers	(8 marks)
AO1 - 1 AO2 - 4 AO3 - 3	<p>Any suitable method of sampling is acceptable, though we might expect the selection to be drawn from random, systematic or stratified (or relevant combinations).</p> <p>The sampling method selected should be capable of being applied to the housing characteristics shown on the map in the variety of forms present. Some comment on the ease or difficulties involved will be relevant, including reference to the challenges caused by varying areas of housing and open space, for example.</p> <p>Sample size is also part of the expected response, and reference to the importance of this in gaining a reliable sample from such maps is very relevant. Some comment on the importance of sample size and its effect on the reliability of data is also acceptable.</p> <p>On the map there are 19th century terraces to the north and west, early 20th century in the centre and later 20th century to the east. Open space needs to be avoided is creditworthy. Could comment on housing variations affecting the sampling methods.</p> <p>Mark Scheme</p> <p>Level 1 (1 – 4 marks) There will be a basic description of the selected sample method; very basic at the lower end to basic at the upper end of the band. Justification may be implicit at the upper end of the band. There will be very little reference to the housing characteristics shown on the map.</p> <p>Level 2 (5 – 8 marks) There will be a clear description of one sample method with a clear justification of its selection. There will be clear reference to how this could be applied to the housing characteristics shown on the map. Comment on further information may be present.</p>	