OXFORD
INTERNATIONAL
AQA EXAMINATIONS

INTERNATIONAL A-LEVEL
GEOGRAPHY
GG05

Paper 5 Fieldwork and Geographical Skills

Mark scheme

January 2023

Version: 1.0 Final

2 3 1 X G G 0 5 / M S

Mark schemes are prepared by the lead assessment writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same, correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' 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 from oxfordaqaexams.org.uk

International A-level Geography mark scheme

How to mark

Aims

When you are marking your allocation of scripts your main aims should be to:

- recognise and identify the achievements of students
- place students in the appropriate mark band and in the appropriate part of that mark band (high, low, middle) for **each** Assessment Objective
- record your judgements with brief notes, annotations and comments that are relevant to the mark scheme and make it clear to other examiners how you have arrived at the numerical mark awarded for each Assessment Objective
- ensure comparability of assessment for all students, regardless of question or examiner.

Approach

It is important to be **open-minded** and **positive** when marking scripts.

The specification recognises the variety of experiences and knowledge that students will have. It encourages them to study geography in a way that is relevant to them. The questions have been designed to give them opportunities to discuss what they have found out about geography. It is important to assess the quality of **what the student offers**.

Do not mark scripts based on the answer **you** would have written. The mark schemes have been composed to assess **quality of response** and not to identify expected items of knowledge.

Assessment Objectives

This component requires students to:

AO1	Demonstrate knowledge and understanding of places, environments, concepts, processes, interactions and change, at a variety of scales.
AO2	Apply knowledge and understanding in different contexts to interpret, analyse and evaluate geographical information and issues.
AO3	Use a variety of relevant quantitative, qualitative and fieldwork skills to: • investigate geographical questions and issues • interpret, analyse and evaluate data and evidence • construct arguments and draw conclusions.

The marking grids

Do not think of levels equaling grade boundaries.

Depending on the part of the examination, the levels will have different mark ranges assigned to them. This will reflect the different weighting of Assessment Objectives in particular tasks and across the examination as a whole.

Using the grids

Having familiarised yourself with the descriptors and indicative content, read through the answer and annotate it (as instructed below) to identify the qualities that are being looked for and that it shows. You can now check the levels and award a mark.

Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptors for that level. The descriptors for the level indicate the different qualities that might be seen in the student's answer for that level. If it meets all the descriptors for the lowest level then go to the next one and decide if it meets this level, and so on, until you have a match between the level descriptors and the answer. With practice and familiarity you will find that for better answers you will be able to skip through the lower levels of the mark scheme quickly.

When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best-fit approach for defining the level and then use the variability of the response to help decide the mark within the level.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark.

It is often best to start in the middle of the level's mark range and then check and adjust. If there is a lot of indicative content fully identifiable in the work you need to give the highest mark in the level. If only some is identifiable or it is only partially fulfilled, then give the lower mark.

The exemplar materials used during standardisation will also help. There will be an answer in the standardising materials that will correspond with each level of the mark scheme. This answer will have been awarded a mark by the lead examiner. You can compare the student's answer with the example to determine if it is of the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the lead examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

In addition to the levels descriptors, question specific indicative content is provided as a guide for examiners. This is not intended to be exhaustive and you must credit other valid points.

An answer that contains nothing of relevance to the question must be awarded no marks.

Annotating scripts

You should write a summative comment at the end for each Assessment Objective and indicate the marks for each Assessment Objective being tested at the end of the answer in the margin in sequence. It is vital that the way you arrive at a mark should be recorded on the script. This will help you with making accurate judgements and it will help any subsequent markers to identify how you are thinking. Please do not write negative comments about students' work or their alleged aptitudes.

Section A **Total for this section: 45 marks**

Question	Part	Marking guidance	Total marks
01		**Primary and secondary data are used in geographical investigations.** **Using examples, explain the difference between primary and secondary data.** **AO1** – Award 4 marks for knowledge and understanding of concepts. Up to 2 marks can be awarded for each data type.	**4** **AO1=4**

Indicative Content

- Primary data is that derived first-hand for the purpose of the investigation (1) – it has been measured or collected by researchers / students and is therefore raw and unprocessed (1). Credit an appropriate example (1) – eg slope angles, stream velocity, responses to a questionnaire, traffic survey.
- Secondary data is data obtained from another source (1) such as the internet, text books or articles. It may have been processed in some way – counted / summarised or statistically manipulated (1). Credit an appropriate example (1) eg census reports, electoral roll data.

Max 3 without an explicit difference.

Question	Part	Marking guidance	Total marks
02	1	**Assess the strengths and weaknesses of this questionnaire.** **AO2** – Application of knowledge and understanding to assess the strengths and weaknesses of this resource. **AO3** – Uses skills to interpret and analyse the components of the questionnaire and applies these critical skills to make a clear assessment of the resource.	**9** **AO2=4** **AO3=5**

Level	Marks	Descriptor
3	**7 – 9**	**AO2** – Full application of knowledge and understanding to the resource to assess both strengths and weaknesses of the questionnaire. **AO3** – Applies skills, knowledge and understanding to the resource, provides detailed analysis and evaluation, drawn appropriately from the questionnaire provided.
2	**4 – 6**	**AO2** – Clear application of knowledge and understanding to the resource to assess both strengths and weaknesses of the questionnaire. **AO3** – Applies skills, knowledge and understanding to the resource, clear analysis and evaluation, drawn from the questionnaire provided.
1	**1 – 3**	**AO2** – Basic application of knowledge and understanding to the resource to assess strength(s) and / or weakness(es) of the questionnaire. **AO3** – Applies basic skills, knowledge and understanding to the resource, offers some basic analysis and evaluation of the questionnaire provided.
0	**0**	No creditable content.

Indicative Content

The questionnaire has many aspects to it and responses do not need to comment on every one to achieve full credit at Level 3.

Strengths of the questionnaire

- Offers a variety / range of different questions.
- Gathers a wide variety of information.
- All on one page, easy to administer.
- Questions are short and not too wordy.
- Would not take too long to collect data – respondents would not be kept too long.
- Questions relate to the aims of the investigation.

Weaknesses of the questionnaire

- There is no introduction – it is rather impolite, there should be a question asking permission for responses to be recorded or similar request for the interviewee's assistance.
- Age ranges are unequal.
- No category for under 18s.
- People may be offended if asked to give their age.
- No need to ask respondents' names or where respondents live – data should be anonymous.
- Each respondent would need to complete a separate questionnaire – this could be time consuming.
- Members of the general public may not understand terms such as 'range of shops'.
- Some of the questions are quite vague and lack focus eg 'what do you think about litter?'
- Possibly has too many questions.
- There is not very much space for extended answers.
- Doesn't account for cultural differences.
- A lack of questions generating quantitative data which might make analysis difficult.

Allow other valid points that make reasonable comments on the strengths and weaknesses of the questionnaire or of the different questions – including merits of open versus closed questions.

Question	Part	Marking guidance	Total marks
02	2	**Suggest improvements to two of the questions used in Figure 1 on page 4.** **Explain why these improvements would make the questions more useful for this investigation.** **AO3** – Uses skills to interpret and analyse the questionnaire and then applies knowledge and understanding of effective data collection / questionnaire design.	**6** **AO3=6**

Level	Marks	Descriptor
2	**4 – 6**	**AO3** – Applies skills, knowledge and understanding to the resource and offers clear and appropriate suggestions and reasons for improvement to two of the questions.
1	**1 – 3**	**AO3** – Applies basic skills, knowledge and understanding to the resource and offers basic ideas of improvement(s) to the questions or improvements and reasons for only one question.
0	**0**	No creditable content.

Indicative Content

Suggestions for how these questions could be improved:

- Q2 'Age' question – could have equal age bands / age bands could be changed for example – under 20, 20–40, 41–60, over 60 to make it easier to estimate ages of people and provide equal distribution of the age range
- Q3 'Where do you live' question – could be changed to 'how far have you travelled, and could include a set of distance options – under 5 km, 6–10 km etc. This would make the results easier to quantify and would provide numerical data for analysis and presentation
- Q4 'Which shops are you visiting' question – the student could add a list of more specific shops or type of shops (food, clothing, electronic goods…) that are appropriate to their local shopping area
- Q5 'How often do you visit' question – could provide a list of closed options such as 'daily', 'once a week', 'once a month' along with space to record tallies. This would again make it easier to quantify, present and analyse the data generated
- Q6 'How did you travel' question – provide options – walk, drive, bus, train etc. This kind of data would be more straightforward when asking the question and generate more specific responses which would be clear to present and analyse
- the open questions asking 'What do you think about…' could be adapted to obtain more focused answers on respondents' opinions to issues such as traffic congestion, parking and litter.

Question	Part	Marking guidance	Total marks
02	3	**The student decided to ask the questionnaire to a sample of people in the urban area.** **What is meant by 'a sample'?** **AO1** – Award 2 marks for knowledge and understanding of the concept. Up to 2 marks can be awarded for a developed point.	**2** **AO1=2**

Indicative Content

- A sample is a proportion or subset of the whole population (1) that is representative of the population as a whole (d), and enables general trends to be established without asking everyone the questionnaire (d). It is required as it is usually very difficult, time-consuming or expensive to collect data from the entire population (d).

Question	Part	Marking guidance	Total marks
03	1	**Explain the risks of carrying out fieldwork in an urban area.** **AO2** – Award 4 marks for application of knowledge and understanding to explain risks associated with urban fieldwork. Up to 2 marks can be awarded for developed points.	**4** **AO2=4**

Indicative Content

There are many risks associated with urban fieldwork including:

- traffic issues – accidents, dangerous roads, crossing roads, causing an obstruction to vehicles
- pollution issues – air quality, noise pollution
- weather hazards – too hot or strong sunshine – can be an issue whilst working outdoors, or wet and cold weather can be a concern and a threat to safety (d)
- members of the public may be wary of students carrying out unfamiliar fieldwork and may be cross if they see it as intrusive. People are quite protective of their personal space (d)
- dangers associated with crime – eg pickpockets on crowded transport systems (d)
- students may get lost in crowded areas
- pavements may be uneven and so trips are a hazard (d).

Question	Part	Marking guidance	Total marks
03	2	**Describe the data collection method the students could have used to collect the data shown in Table 1.** **AO2** – Knowledge and understanding of data collection is applied to the situation and an appropriate method(s) / sequence is described. **AO3** – Application of fieldwork skills to the unfamiliar situation which would enable the students to effectively gather the required data.	**6** **AO2=2** **AO3=4**

Level	Marks	Descriptor
2	**4 – 6**	**AO2** – Demonstrates clear application of fieldwork skills to the unfamiliar situation. **AO3** – Clear description of the methods that would enable the data to be gathered.
1	**1 – 3**	**AO2** – Demonstrates basic application of fieldwork skills to the unfamiliar situation. **AO3** – Basic description of method(s) that would enable the data to be gathered.
0	**0**	No creditable content.

Indicative Content

- In order to successfully collect the data shown in the table the students would need to measure and record the two variables of distance and air temperature. From a chosen starting point in the centre of the city – this may have been selected randomly or in a convenient way after analysis of the city map. Students would then need to identify a suitable route out of the city which could be completed in a suitable time frame – perhaps half a day.
- Then, beginning at the start point the thermometer would be used to measure the air temperature – it may be appropriate to take more than one reading if the thermometer shows any variation.
- Then, travelling their chosen route, the distance along the route would need to be measured (using pre-determined points on the map or the use of a trundle-wheel). At each stop, the temperature is again recorded using the method outlined. Students would need to try and be consistent with regard to positioning the thermometer – try to keep it the same height, keep out of direct sun, stay clear of buildings which could unduly affect the results.
- Students may have travelled the route using cars, bus or cycle to collect data at more standardised times.
- Alternatively they may have split into groups and recorded the data at different locations at the same time.

Credit plausible responses to the question posed.

Question	Part	Marking guidance	Total marks
03	3	**Suggest problems or limitations that could affect the reliability of the results shown in Table 1.** **AO2** – Award 3 marks for the application of knowledge and understanding to show how the results may be affected by factors that produce unreliable results. Up to 2 marks may be awarded for each developed point.	**3** **AO2=3**

Indicative Content

The reliability of the recordings may be affected by practical and environmental factors, accept points such as:

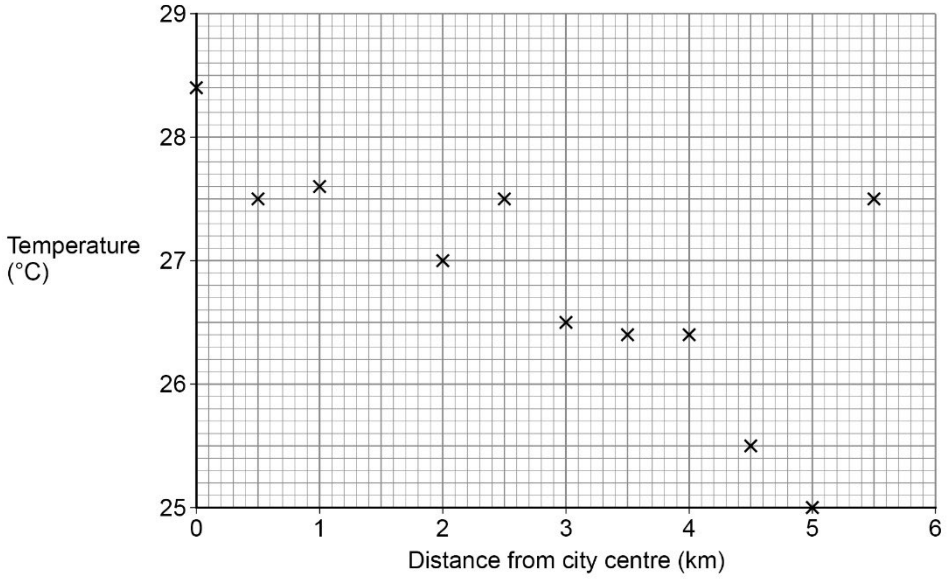
- faulty / inaccurate equipment (the thermometer, trundle wheel)
- difficulty in reading the scale on the instruments (eg thermometer)
- time pressure leading to hurried recordings and misreading of the scale (d)
- inaccurate distance measurement – it may not have been possible to record at exactly each 0.5km along the survey line due to buildings, busy roads, obstructions (d)
- the readings were not all taken simultaneously
- as time passes during the day, the air temperature may have risen or fallen due to changing weather conditions – it may have become cloudy or sunnier which has a bigger influence than local environmental conditions (d).

Credit other valid points.

<table>
<tr><th>Question</th><th>Part</th><th>Marking guidance</th><th>Total marks</th></tr>
<tr><td>03</td><td>4</td><td>Complete the scatter graph in Figure 2 by adding the two remaining results below.

<table>
<tr><td>Distance from city centre (km)</td><td>Temperature (°C)</td></tr>
<tr><td>2.0</td><td>27.0</td></tr>
<tr><td>4.5</td><td>25.5</td></tr>
</table>

<u>Mark scheme</u>
1 mark for two accurately plotted points.



</td><td>1

AO3=1</td></tr>
<tr><td>03</td><td>5</td><td>Draw a circle around the point on the scatter graph in Figure 2 which would be considered an anomaly.

<u>Mark scheme</u>
1 mark for correctly identifying the point at 5.5 km (27.5°C)</td><td>1

AO3=1</td></tr>
</table>

Question	Part	Marking guidance	Total marks
03	6	**Describe and justify a statistical technique that could be used to analyse the relationship between air temperature and distance from the city centre shown in Figure 2.** **AO2** – Use of the data to provide some justification for the use of an additional technique to analyse the relationship between the two variables. **AO3** – Use of the data to help describe the use of an additional appropriate technique that could be used in data analysis.	**9** **AO2=4** **AO3=5**

Level	Marks	Descriptor
3	**7 – 9**	**AO2** – Effective use of the data to help provide a justification for the use of an additional data analysis technique. **AO3** – Effective use of the data to help describe an appropriate technique that could be used in data analysis.
2	**4 – 6**	**AO2** – Some use of the data to help the justification of an appropriate analytical technique. **AO3** – Some use of the data to help with describing the analysis technique.
1	**1 – 3**	**AO2** – Basic justification of an analytical technique but without clear reference to the results. **AO3** – Basic / limited description of the analytical technique with limited or no use of the data.
0	**0**	No creditable content.

Indicative Content

- As the results suggest that there is a negative relationship between distance from the city centre and air temperature (as there is a fairly clear decline in temperature as the students move away from the city centre) it would be appropriate to apply a statistical test such as Spearman. This can be justified as it appears the decline in temperature is not consistent with distance and some drops are bigger than others (it is not a linear relationship).
- The increase in temperature at 5.5 km is an anomaly and may cast some doubt on the validity of any conclusion drawn just from the graph.
- A more robust analysis may be conducted with the application of a hypothesis testing statistical test such as the Spearman Rank or Pearson Product Moment Correlation coefficients. Spearman Rank is listed in the skills checklist and is the more likely response.
- This approach can be justified as it provides an objective measure of the strength of the relationship (on a scale of –1 to +1) and this can be checked for validity using a statistical significance test.
- It can also be applied as there are 11 pairs of data which is just about sufficient to apply the test.

- In describing the statistical method, the data sets need to be put into rank order, then find the difference between the ranks (d), which are then squared and totalled. The sum of the d^2 values is then put into the Spearman formula with a result obtained between +1 and –1.
- The result needs to be checked for significance against a table of pre-calculated values for the sample size. This will enable an effective conclusion to be drawn from the analysis.
- Students may suggest that drawing a best fit line (regression line) on the scatter graph would help to analyse the data further – this is legitimate but really an extension of the graph itself and not a statistical technique in itself.
- As the negative relationship could be seen with the regression line added and some comment made on the steepness of the line and / or the proximity of the data points to the line, there would be some credit at level 1 for this approach.

Section B **Total for this section: 15 marks**

Question	Part	Marking guidance	Total marks
04	1	You have experienced geography fieldwork as part of your course. Use this experience to answer Questions **04.1** and **04.2**. **State the aim of your fieldwork investigation.** **Describe the background research you carried out and how this helped you establish the aim.** **AO1** – Knowledge and understanding of the investigation process. Knowledge and understanding of the background theory, location and context of the investigation. **AO2** – Application of the knowledge and understanding to show how the research has helped develop the geographical investigation.	**6** **AO1=3** **AO2=3**

Level	Marks	Descriptor
2	**4 – 6**	**AO1** – The background research carried out as part of the investigation is clearly described so that a suitable aim can be developed which has a clear geographical and locational context. **AO2** – The background research is fully understood in terms of the investigation context. Clear reference to sources of information, geographical theory and secondary material helping to establish an aim.
1	**1 – 3**	**AO1** – The background research carried out as part of the investigation is described in simple terms and the aim of the investigation is loosely or not clearly linked to this research. **AO2** – There is limited understanding of the background research and references to sources of information are not clear or vague with no direct link to the establishment of the aim.
0	**0**	No creditable content.

Indicative Content

AO1

The candidate shows knowledge of the background research carried out in terms of geographical theory, context and existing knowledge. The response clearly depends on the fieldwork carried out. It could be any geographical investigation, for example a sand dune investigation looking at the development of a psammosere succession might involve researching the theory of succession, identifying suitable locations to test the theory by looking at maps, guide books or through a pilot study / reconnaissance of possible locations. There could be reference to specific text books consulted as part of the process. This helps the development of the aim of the investigation.

AO2

The candidate shows an understanding of why the background research was carried out, and how the knowledge of the topic, theory or location was applied to this study. This helps with the development of the aim of the investigation.

In a sand dune study, the model of psammosere was used so that comparison could be made between the study area and the text book model. The aim developed as we intended to look at how the vegetation diversity and soil characteristics changes from the front of the dunes inland. Without this theoretical knowledge, we did not know how the dunes could change.

Question	Part	Marking guidance	Total marks
04	2	**To what extent did one presentation technique used in your investigation help you to draw conclusions from the data you collected?** **AO1** – Knowledge and understanding of an appropriate presentation technique used in the geographical investigation and knowledge and understanding of the conclusions drawn. **AO3** – Clear discussion of the extent to which the presentation technique helped to establish a conclusion and clear discussion of the data used in the presentation method.	**9** **AO1=6** **AO3=3**

Level	Marks	Descriptor
3	**7 – 9**	**AO1** – There is a clear discussion of the presentation technique used and its application to the chosen investigation. The conclusion is clearly stated and it is directly linked to the information referred to as being shown in a presentation technique. **AO3** – There is a thorough understanding of the validity of the presentation technique and how it helps to show the data and therefore enables a clear conclusion to be drawn. Candidates can be credited for the use of sketches that aid their written response.
2	**4 – 6**	**AO1** – There is some discussion of the presentation technique used and how it can be applied to the chosen investigation. A conclusion is stated which linked to the information being shown in the presentation technique. **AO3** – There is some understanding of the validity of the presentation technique and how it is used to display the data. There is some link between the presentation method and the conclusion drawn. Candidates can be credited for the use of sketches that aid their written response.
1	**1 – 3**	**AO1** – There is limited discussion of the presentation technique used and its application to the chosen investigation. A conclusion may not be clear and it is only loosely connected to the presentation technique. **AO3** – There is limited understanding of the validity of the presentation technique and its use in displaying the data. Links between the presentation method and the conclusion drawn are tenuous or absent.
0	**0**	No creditable content.

Indicative Content

AO1

- Candidates show knowledge and understanding of a wide range of data presentation techniques that may be appropriate to the geographical data collected as part of their investigation.
- The skills checklist includes graphical techniques such as line, bar and pie charts, cartographical methods such as choropleth, dot and isoline maps but responses are not limited to those listed.
- Responses should consider how the data presented enables a conclusion to be drawn. The answer will clearly depend upon the nature of the investigation itself.

AO3

- Candidates make effective connections between the information presented and how it enables them to draw a conclusion. For example data from a pedestrian survey in a shopping centre might be presented as an isoline map or choropleth map which would enable patterns to be observed, areas of concentration or otherwise which would then allow the candidate to come to a conclusion about the most frequently used areas / highest concentration of shoppers / areas with limited footfall.

Response depends on the study undertaken.

Assessment Objective grid

	AO1	AO2	AO3	Total
Section A				
1	4			4
2.1		4	5	9
2.2			6	6
2.3	2			2
3.1		4		4
3.2		2	4	6
3.3		3		3
3.4			1	1
3.5			1	1
3.6		4	5	9
Section B				
4.1	3	3		6
4.2	6		3	9
Unit total	15	20	25	60