



GEO.SK7 Fieldwork Enquiry: Presenting, Analysing and Evaluating Data

AQA 8035 · Calculators not allowed · about 40 minutes

Total Marks

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Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** Define the term 'field sketch' as used in a geography fieldwork enquiry at a UK town centre site.

(Total for Question 1 is 1 mark)

- 2** State one advantage of using an annotated photograph over an unlabelled photograph in presenting fieldwork evidence from a park visit.

(Total for Question 2 is 1 mark)

- 3** Figure 1: Results from a pedestrian count undertaken on High Street, a UK town centre, between 10:00 and 11:00. Counts at four points along the street: North end 120 pedestrians, Market junction 210 pedestrians, Central crossing 350 pedestrians, South end 220 pedestrians. Suggest a suitable way to present this fieldwork data and justify your choice with one clear reason.

(Total for Question 3 is 2 marks)

- 4** Figure 1 repeated: High Street pedestrian counts (North end 120, Market junction 210, Central crossing 350, South end 220). Describe the pattern shown by the pedestrian counts.

(Total for Question 4 is 3 marks)

- 5 A student recorded sound levels (in dB) at three positions in a school playground: A 62 dB, B 68 dB, C 65 dB. Calculate the mean sound level measured across the three positions. Give your answer to one decimal place.

(Total for Question 5 is 2 marks)

- 6 During the same playground enquiry the student took 12 soil compaction readings at equal intervals across a grassy area. The readings (arbitrary units) are: 2, 3, 2, 4, 3, 3, 2, 3, 4, 3, 2, 3. Calculate the median soil compaction value.

(Total for Question 6 is 2 marks)

- 7 A small group measured the width (metres) of a river channel at five transects: 3.2, 4.1, 3.8, 4.0, 3.9. Calculate the range of the channel widths.

(Total for Question 7 is 1 mark)

- 8 Students carried out a survey asking 100 shoppers whether they preferred outdoor seating at a cafe. Results: Yes 68, No 32. Suggest one suitable chart to present these categorical data and give one reason why this chart is appropriate.

(Total for Question 8 is 2 marks)

- 9 Figure 2: Radial graph results from a microclimate survey at a courtyard, showing wind shelter scores out of 5 at four compass points: North 2, East 4, South 5, West 3. Describe one conclusion that can be drawn about shelter from these results.

(Total for Question 9 is 2 marks)

- 10** A student plotted pedestrian counts at five-minute intervals and noticed one minute had an unusually high spike due to a passing school group. Explain why this single spike might be treated as an outlier and how it should be handled when reporting average pedestrian flow.

(Total for Question 10 is 3 marks)

- 11** Give TWO limitations of using small sample sizes in fieldwork enquiries, for example when measuring soil pH at three points in a community garden.

(Total for Question 11 is 2 marks)

- 12** A student used a simple metre ruler to measure vegetation height and recorded values to the nearest centimetre. State one source of human error in this method, and suggest an improvement.

(Total for Question 12 is 2 marks)

- 13** Table 3: Results of a water quality test at three points along a stream in a park using a simple kit for nitrate concentration in mg/l: Upstream 1.2, Midstream 2.8, Downstream 4.6. Describe one conclusion from these results about pollutant input along the stream.

(Total for Question 13 is 2 marks)

- 14** State one ethical consideration to bear in mind when conducting a school fieldwork survey in a public urban space.

(Total for Question 14 is 1 mark)

- 15** Use the enquiry described in this pack (examples include pedestrian counts on High Street, microclimate radial graph and water quality readings) to answer the question below.

Evaluate the fieldwork methods used in this enquiry, considering reliability, limitations and improvements.

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(Total for Question 15 is 6 marks)

Mark scheme · GEO.SK7 Fieldwork Enquiry: Presenting, Analysing and Evaluating Data

Question 1

- **B1** a simple labelled drawing made on site that shows key features and their spatial relationships, oe
- **Answer: A field sketch is a simple labelled drawing made on site that shows key features and their spatial relationships.**

Question 2

- **B1** it shows the location and significance of features clearly with labels, making interpretation easier, oe
- **Answer: It shows the location and significance of features clearly with labels, making interpretation easier.**

Question 3

- **B1** suggestion of an appropriate presentation, e.g. a located bar chart on a simple map or a column graph labelled with the four positions, oe
- **B1** justification, e.g. this shows differences in pedestrian numbers at each location clearly and links the counts to their place on the street, oe
- **Answer: A located bar chart (bars plotted at the four positions on a base map) because this shows differences in pedestrian numbers clearly and links each count to its exact position on the street.**

Question 4

- **B1** overall trend, e.g. counts increase from the North end to a peak at the Central crossing then fall towards the South end, oe
- **B1** supporting data, e.g. numbers rise from 120 to 350 then decrease to 220, oe
- **B1** interpretation, e.g. the central crossing is the busiest point, possibly due to shops or a transport interchange, oe
- **Answer: Counts increase from the North end to a peak at the Central crossing (120 to 350) and then fall towards the South end (to 220), so the Central crossing is the busiest location, likely due to nearby shops or a transport interchange.**

Question 5

- **M1** sum $62 + 68 + 65$ and divide by 3 seen, oe
- **A1** 65.0 dB cao
- **Answer: 65.0 dB.**

Question 6

- **M1** order data and identify middle values for 12 items (positions 6 and 7) seen, oe
- **A1** 3 cao
- **Answer: 3.**

Question 7

- **A1** 0.9 m cao
- **Answer: 0.9 m.**

Question 8

- **B1** suggestion, e.g. a pie chart or a simple bar chart, oe
- **B1** reason, e.g. shows proportions of the whole sample clearly (68% versus 32%) or compares categories visually, oe
- **Answer: A pie chart because it shows proportions of the whole sample clearly (68% yes, 32% no).**

Question 9

- **B1** conclusion about pattern, e.g. the south side is best sheltered with highest score 5, while the north side is least sheltered with score 2, oe
- **B1** linked reason or implication, e.g. south side may be protected by buildings or walls, making it more suitable for seating, oe
- **Answer: The south side is best sheltered with the highest score of 5, while the north side is least sheltered with a score of 2, so the south is likely more suitable for seating due to protection by nearby buildings or walls.**

Question 10

- **B1** reason why outlier, e.g. it is not representative of normal pedestrian flow because a school group temporarily increased numbers, oe
- **B1** handling method, e.g. exclude it from mean calculation or report median as a resistant measure, oe
- **B1** linked justification, e.g. this gives a more typical average and avoids the spike distorting the result, oe
- **Answer: The spike is an outlier because it is not representative of normal flow, being caused by a temporary passing school group; it could be excluded from the mean or the median reported instead, giving a more typical average and preventing the spike from distorting the result.**

Question 11

- **B1** limitation 1, e.g. results may not be representative of the whole area and may miss variation, oe
- **B1** limitation 2, e.g. small samples increase the influence of random error or an outlier on the overall result, oe
- **Answer: Small samples may not be representative and can miss spatial variation across the site; they also increase the influence of random error or outliers on the overall result.**

Question 12

- **B1** source of human error, e.g. inconsistent positioning of the ruler or different students reading the ruler differently, oe
- **B1** improvement, e.g. use a fixed stake or clip to ensure consistent measurement position or have the same student take all measurements, oe
- **Answer: Human error could come from inconsistent positioning of the ruler or different students reading it differently; improve by using a fixed stake or clip for each measurement or having the same student take all measurements for consistency.**

Question 13

- **B1** observation, e.g. nitrate concentration increases downstream from 1.2 to 4.6 mg/l, oe
- **B1** interpretation, e.g. this suggests additional pollutant input between upstream and downstream, possibly from runoff or a tributary, oe
- **Answer: Nitrate concentration increases downstream from 1.2 mg/l upstream to 4.6 mg/l downstream, suggesting additional pollutant input between the upstream and downstream points, possibly from surface runoff or a small tributary entering the stream.**

Question 14

- **B1** e.g. obtain consent before surveying individuals or respect privacy and do not record personal data without permission, oe
- **Answer: Obtain consent before surveying individuals and respect privacy; do not record personal data without permission.**

Question 15

- **Level 1** (1-2): Basic points about reliability or limitations, with limited development. May list a small number of problems or a single simplistic improvement.
- **Level 2** (3-4): Clear evaluation that identifies several limitations and weaknesses in the methods, with some linked suggestions for improvement and brief justification.
- **Level 3** (5-6): A detailed, balanced evaluation that discusses reliability and multiple limitations, provides specific, realistic improvements and explains how these would increase data quality or validity, leading to a supported judgement about overall usefulness of the methods.
- **Indicative content:**
 - Assess reliability: consider sample size, repetition of measurements, use of calibrated instruments, inter-observer consistency, and whether timing or weather affected results.
 - Limitations: small samples (e.g. few pedestrian count locations or few soil readings) reduce representativeness; single-time sampling may miss temporal variation; simple kits have limited precision; observer bias and inconsistent measurement technique reduce reliability.
 - Improvements: increase sample size and spatial coverage, repeat measurements at different times or days, use more precise or calibrated instruments, train all data collectors to a standard procedure, use random or systematic sampling to reduce bias.
 - Practical considerations: balance improved methods with time and resource constraints; some suggestions such as more sophisticated kit or many repeats may be limited by school timetable.
 - Further lines of enquiry: testing at different times of day or year, comparing multiple nearby sites, combining quantitative measurements with qualitative observations or questionnaires to explain patterns.
 - Supported judgement: weigh the current methods as suitable for a simple classroom enquiry but limited for high-precision conclusions; state whether results are sufficient to answer the original question and how confident the student should be in the findings.