

9 (a) (i) Suggest two factors that the students may have considered when selecting their sites. (4)

| Question number | Answer | Marks |
|-----------------|---|------------|
| 9 (a) (i) | <p>Award one mark for identifying a legitimate reason for site selection and a further mark for applying it to this context.</p> <p>To cover a range of channel characteristics (1) so at appropriate intervals and not clustered (1)</p> <p>To allow the fieldwork to be carried out (1) given constraints of numbers/time etc. (1)</p> <p>To allow for access/safety issues (1) example of same, e.g. sites 2/4 (1)</p> <p>Allow any other appropriate response.</p> | (4) |

Sample A

- 1 If it was accessible
- 2 If they are all ~~at~~ equal distances from one another

Sample B

- 1 The location of each site, they've selected areas ~~at~~ very high up and much further down so have a bigger range of data.
- 2 ~~How close~~ The distance between each site, it shows a gradual change as you progress downstream

Sample C

1. They should have thought about accessibility to make sure that they could reach the river quickly and safely without taking any risks.

2. They should have thought about sampling to make sure that the sites would be a fair picture of the changes along the river and not biased in any way.

9 (a) (ii) Describe the relationship between river gradient and velocity in Figure 9. (4)

| Question number | Answer | Marks |
|-----------------|--|-------|
| 9 (a) (ii) | <p>Award one mark for identifying an aspect of the relationship, a second mark for supporting this with data.</p> <p>In general the steeper the gradient the lower the velocity (1) so at site 1 4.5° and 14.5 cm/sec (1)</p> <p>Site 3 looks to be an anomaly (1) data to support (1)</p> <p>Sites 6,7 and 8 also pose some problems (1) but gradient differences are very small indeed (1)</p> <p>Allow any other appropriate response.</p> | (4) |

Sample A

(4)
As the gradient decreases, the average velocity increases

Sample B

(4)
The higher the gradient, the higher the velocity, for example, at site 1, the gradient is 3 and the velocity is 26cm/sec whereas at site 5, the gradient is 3.5 and the velocity 3.5cm/sec.

Sample C

Roughly the velocity goes up as the gradient goes down. This can be seen because at Site 1 it is steepest at 4.5° and travelling at 14.5 metres per second which is actually faster than the next site but much less than the 41 cm/sec at Site 8 which is on 2°. This shows that the channel is becoming more efficient so the water flows quicker although the slope is less. There is an anomaly at Site 7 which is much slower than Site 6 although the slope is the same so the relationship isn't perfect.

9 (a) (iii) Explain one problem resulting from the lack of data from sites 2 and 4 (2)

| Question number | Answer | Marks |
|-----------------|---|-------|
| 9 (a)(iii) | <p>Award one mark for identifying the problem and a second mark for developing its impact.</p> <p>Missing data might alter overview (1) so change conclusions (1)</p> <p>Need sufficient results to use statistical tests, e.g. Spearman's (1) so weakens strength of conclusions (1)</p> <p>Allow any other appropriate response.</p> | (2) |

Sample A

The students can't get correct averages for the river

Sample B

You can't fully compare ~~the~~ each part⁽²⁾ of the river so results might be incorrect

Sample C

If the students selected their sites to show downstream changes evenly spaced along the river missing a whole site out will lead to inaccuracies in their results which will also make the conclusions wrong and misleading.

9 (b) You have carried out your own fieldwork investigating how and why drainage basin characteristics influence flood risk for people and property.

Name your river environment fieldwork location:

Using the conclusions from your geographical investigation assess the accuracy and reliability of your results.

(8)

| Question Number | Indicative content |
|-----------------|--|
| 9 (b) | <p>AO3 (4 marks) / AO4 (4 marks)</p> <p>AO3</p> <ul style="list-style-type: none"> • Reference should be made to the results of data collection in terms of specific locations and the type of management in place • Conclusions reached should be clear with references to both accuracy and reliability • Accuracy should be assessed in terms of the appropriateness of the original design and the methodology and conduct of data collection • Reliability should be assessed in terms of how representative the data collected (however accurately) is of the larger population and what might affect this • Neither accuracy nor reliability is likely to be perfect given the context and extent of the investigation • Assessment involves taking a view about both variables and perhaps differentiating between the two. <p>AO4</p> <ul style="list-style-type: none"> • Influence can take several forms and in several directions with some human actions reducing flood risks whilst others increase them • Channel characteristics are largely a consequence of drainage basin characteristics but these are affected by human actions • Human actions can reduce flood risks as with afforestation and water abstraction but most land management increases flood risks; land drainage, urbanisation, deforestation • Channel characteristics are impacted but are also affected by climatic changes both short term and long term • Longer term changes can only be assessed through secondary data and are unpredictable making them less reliable • Short-term changes are intrinsically flawed in terms of assessing longer term risks. |

GCSE UNIT 2 - SAMPLE ANSWERS FIELDWORK

| Level | Mark | Descriptor |
|---------|------|--|
| | 0 | No rewardable material. |
| Level 1 | 1-3 | <ul style="list-style-type: none"> Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements that are supported by limited evidence. (AO3) |
| | | <ul style="list-style-type: none"> Few aspects of the enquiry process are supported by the use of geographical skills to obtain information, which has limited relevance and accuracy. Communicates generic fieldwork findings and uses limited relevant geographical terminology. (AO4) |
| Level 2 | 4-6 | <ul style="list-style-type: none"> Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) Some aspects of the enquiry process are supported by the use of geographical skills. Communicates fieldwork findings with some clarity using relevant geographical terminology occasionally. (AO4) |
| Level 3 | 7-8 | <ul style="list-style-type: none"> Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently leading to judgements that are supported by evidence throughout. (AO3) All aspects of the enquiry process are supported by the use of geographical skills. Communicates enquiry-specific fieldwork findings with clarity, and uses relevant geographical terminology consistently. (AO4) |

Sample A

Name your river environment fieldwork location:

~~river~~ Brear Northumberland

Using the conclusions from your geographical investigation, assess the accuracy and reliability of your results.

(8)

We only visited 2 out of 3 sites as we - didn't have the time to get to all 3. ~~This affected~~ It hadn't rained for quite a long time ~~so~~ so the river was quite low in depth. Not many people took part so ~~only~~ only a few people collected the results which ~~won't~~ ~~won't~~ give us an average ~~for~~ for each site.

Sample B

Most rivers flood a lot because of heavy rain and too many people living in the area which makes huge demands on the water supply. This can affect how people use the river and how they react to flood risk which is very easy to forget or not even to know if people are new to an area. As a result of this people can make everything worse by filling in the basin the houses and factories which means that the water has nowhere to go when the weather is really bad as it often is around here.

Sample C

Location – River Breamish

We did our fieldwork in the upper course of the river measuring its width, depth and velocity as well as its gradient. We used the Bradshaw model as our guide. We also tried to calculate the channel capacity at bankfull so that we could calculate how easily it would flood by looking at the environmental maps of flood risk and the geology map that helped us understand whether or not the area was porous or permeable. Some of the sites were hard to measure because the bank was slippery and the depth was especially hard because it varied so much so an accurate picture was difficult to get. We had been divided into groups but we all measured the same sites so it was a bit of surprise that some of the results were hugely different which might mean that one group didn't do it right. We took photos so that we might be able to work out which group's results were the real ones. The equipment we used didn't always work especially the clinometers and the flowmeters. Some of the readings were confusing because the river was really shallow in places because when we went there it hadn't rained for weeks so the results may not have been reliable at all.

10 (a) (i) Explain one weakness in the method that you used to collect quantitative data. (2)

| Question number | Answer | Marks |
|-----------------|---|-------|
| 10(a) (i) | <p>Award one mark for identifying a legitimate weakness and a further mark for developing that idea.</p> <p>Problem might methodological, e.g. not enough data collected (1) so conclusions cannot be drawn (1)</p> <p>Problem might relate to reliability (1) in that it is not representative, e.g. time of day/year of data collection (1)</p> <p>Allow any other appropriate response.</p> | (2) |

Sample A

Name your inner city environment:

Newcastle

(a) (i) Explain **one** weakness in the method that you used to collect quantitative data.

(2)

Only a few people did ~~it~~ it
 so we couldn't get an average

Sample B

We collected our data on quite a cold weekday morning, this could have meant that less people were there for our people count than there would normally be

Sample C

Newcastle

It was raining at the time so many people stayed at home making it hard to find people to answer questions so we could not be sure that we had a fair range of answers.

10 (a) ii Explain how case studies or theories helped you to analyse your results. (4)

| Question number | Answer | Marks |
|-----------------|---|-------|
| 10(a)(ii) | <p>Award one mark for identifying an application of a theory and/or a case study to the data gathered, a second mark for developing the idea through the use of that data.</p> <p>Hypothesis/model relating environmental quality to social class applied to own results (1) details of analytical support or lack of support (1)</p> <p>Hypotheses/model relating environmental quality to distance from city centre applied to own results (1) details of analytical support or lack of support (1)</p> <p>Allow any other appropriate response.</p> | (4) |

Sample A

We guessed what some of the answers would be so if we were unsure about any results they could be put down as an anomaly.

Sample B

Case studies^{and theories} helped us analyse our results⁽⁴⁾ as it gave us patterns to look for in our results, we decided the suburbs would perform better on most surveys and this helped us come to our conclusion.

Case studies also helped us as it provided secondary data to back up our results.

Sample C

It is well known that people see the spaces that they live in differently if they are a different ages and so forth. We tried to ask questions about the areas environment to lots of different groups to see if this was true or not and analysed the results to see if there was any pattern. We thought that maybe old people would be more critical of the environment and based a hypothesis on this idea.

GCSE UNIT 2 - SAMPLE ANSWERS FIELDWORK

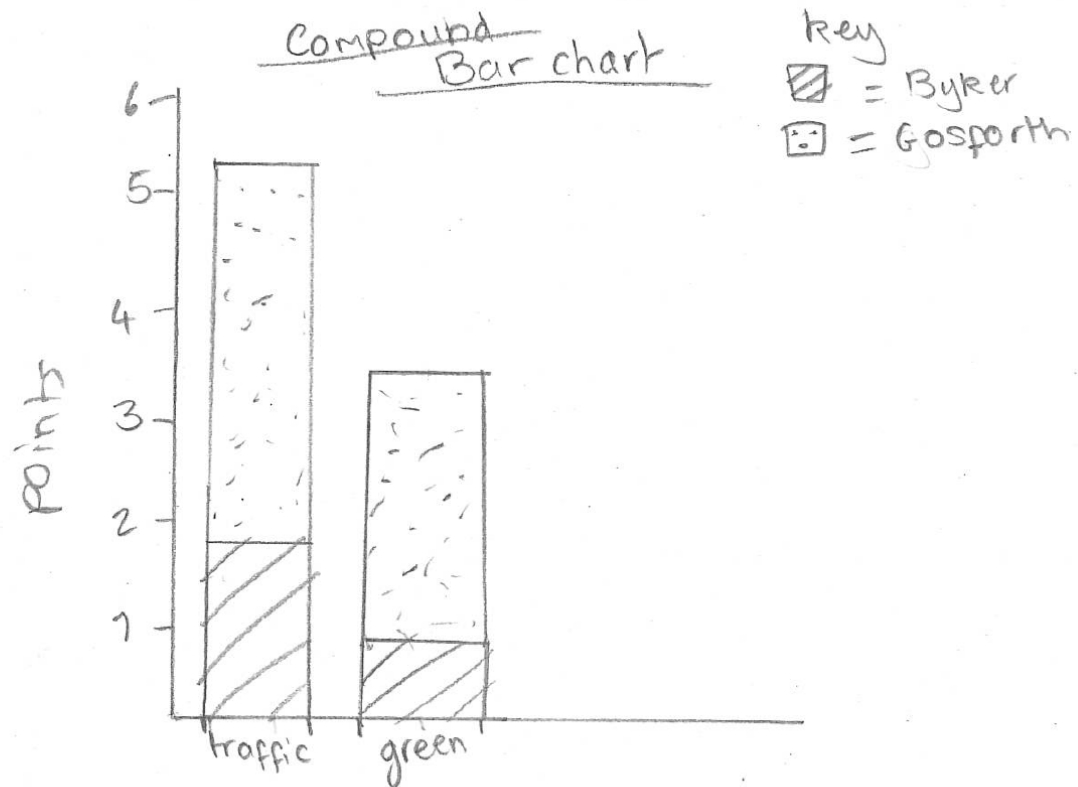
10 (b) Draw an annotated sketch map or annotated diagram to show how you presented some of your fieldwork data. (4)

| Question number | Answer | Marks |
|-----------------|--|------------|
| 10 (b) | <p>Map/diagram is clear and appropriately labelled with key/scale/axes comprehensible (1) original data is obvious (1) annotations make clear why method of presentation is appropriate (1) annotations make link with enquiry question clear (1) annotations make impact of the results on the enquiry clear (1)</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>We studied environmental quality in 3 contrasting rural settlements and we judged each area according to a series of impressions.</p> </div> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>The table shows the results clearly in a way that is easily interpreted.</p> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p>We gathered this data as a group with each of us making a decision, which we then averaged and rounded up to a figure between 1 and 5.</p> </div> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p>The lower the figure the better the area seems to be – this area was the worst of the 3 villages that we visited.</p> </div> </div> | (4) |

| | | | | | | | |
|---|-------------|---|---|---|---|---|-------------|
| a | boring | 1 | 2 | 3 | 4 | 5 | stimulating |
| b | ugly | 1 | 2 | 3 | 4 | 5 | attractive |
| c | crowded | 1 | 2 | 3 | 4 | 5 | peaceful |
| d | threatening | 1 | 2 | 3 | 4 | 5 | welcoming |
| e | private | 1 | 2 | 3 | 4 | 5 | public |
| f | cold/wet | 1 | 2 | 3 | 4 | 5 | warm/dry |
| g | monotonous | 1 | 2 | 3 | 4 | 5 | varied |
| h | obvious | 1 | 2 | 3 | 4 | 5 | mysterious |
| i | drab | 1 | 2 | 3 | 4 | 5 | colourful |
| j | weak | 1 | 2 | 3 | 4 | 5 | strong |
| k | confining | 1 | 2 | 3 | 4 | 5 | spacious |
| l | lonely | 1 | 2 | 3 | 4 | 5 | sociable |
| m | modern | 1 | 2 | 3 | 4 | 5 | historic |

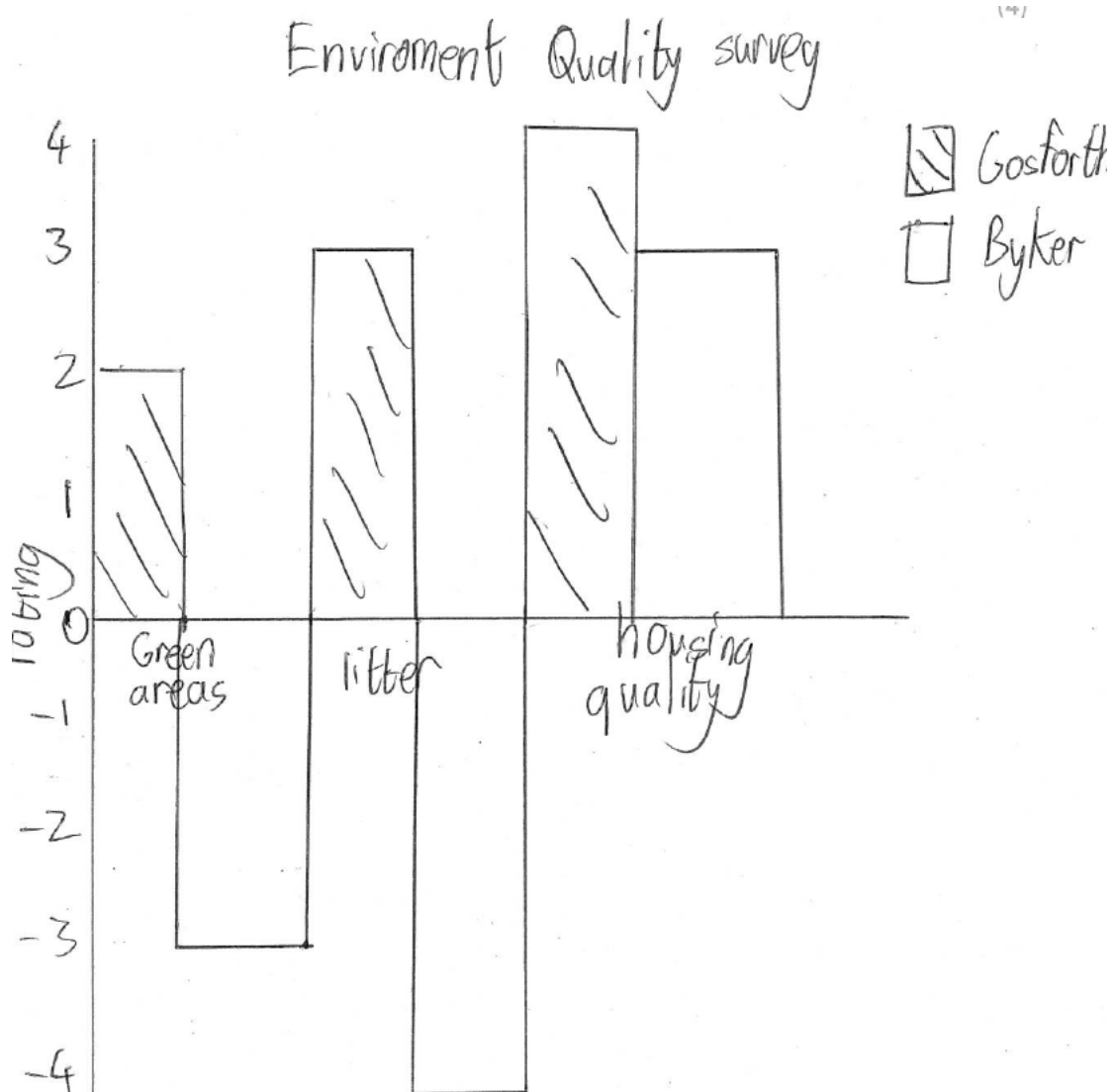
Allow any other appropriate response

Sample A

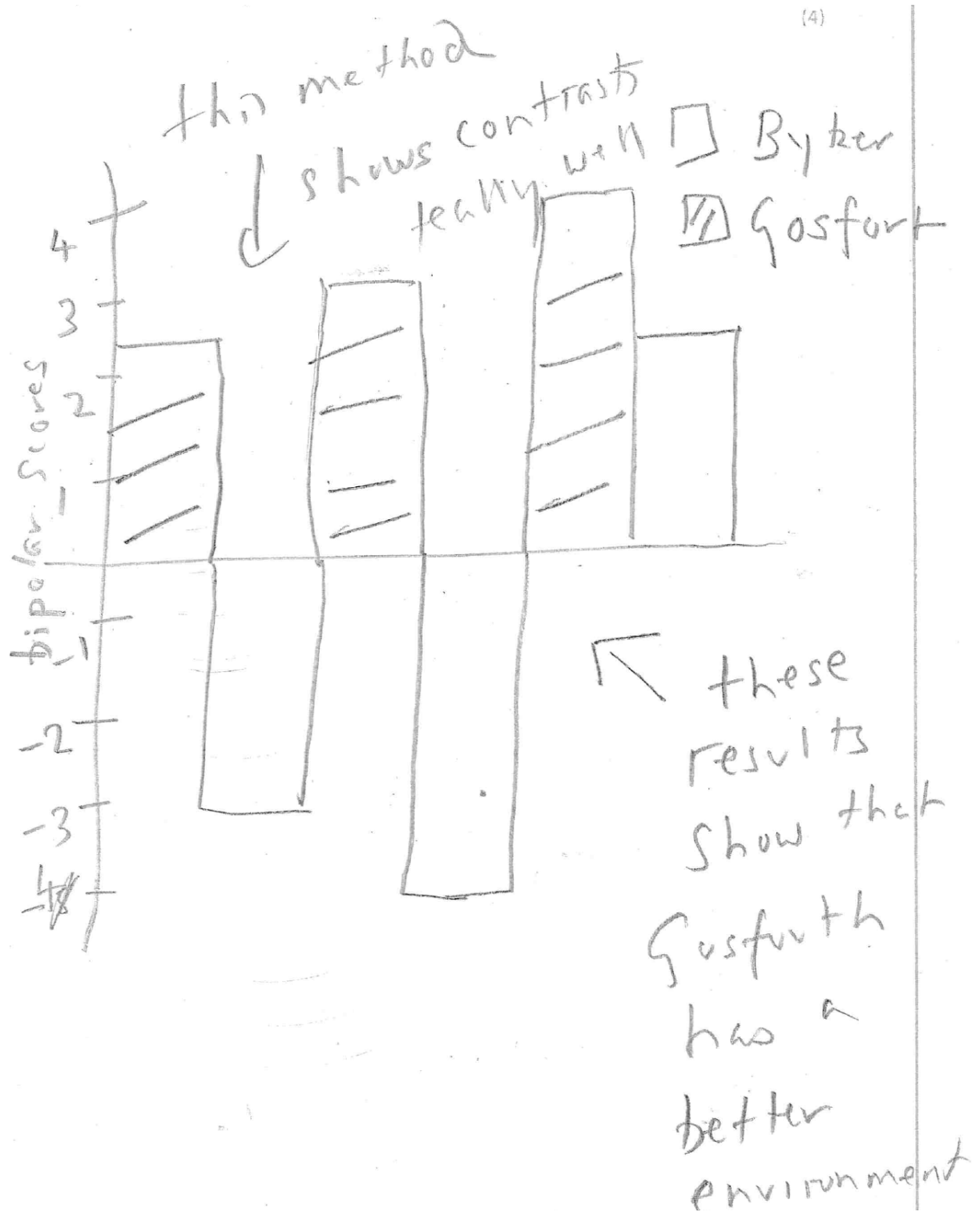


number of
points that town
got for each
category

Sample B



Sample C



10 (c) A group of 20 students carried out questionnaires in two contrasting inner city areas on a Thursday afternoon.

They asked 40 randomly selected residents about the area they lived in (Area A or Area B). They gave them three statements about their area

Statement 1 – ‘Crime is a major problem in your area’

Statement 2 – ‘Noise is a major problem in your area’

Statement 3 – ‘Litter and graffiti are major problems in your area’

The residents were asked to either;

Strongly agree

Agree

Disagree

or strongly disagree with these three statements

The results are shown below on Figure 10, presented as divided bar graphs

The students concluded that Urban Area A had a better environment than urban Area B.

Assess the evidence for this conclusion. (8)

| Question Number | Indicative content |
|-----------------|--|
| 10 (c) | <p style="text-align: center;">A03 (4 marks) / A04 (4 marks)</p> <p>A03</p> <ul style="list-style-type: none"> • The evidence is partial, based on 40 questionnaires from an unknown total population • 'Randomly selected residents' may not be representative – it is not known whether they are, for example, an accurate reflection of the age structure or gender structure of these two locations • The three questions asked give a limited range of environmental quality measures and thus may not be representative of the environment as a whole • This is a perception study and, as such, may not accurately reflect the reality of either of these environments • Secondary data might be available to either reinforce or potentially to qualify conclusions drawn from this primary data study. <p>A04</p> <ul style="list-style-type: none"> • The results are not totally transparent although broadly speaking the perceived environmental quality (EQ) is poorer for Area A than for Area B • Disagree percentages give different perspective • Crime data has 40% agreeing in Area B but only 10% in Area A • For Noise the results are complex with over 70 agreeing that it is a problem in Area B but more (>30%) strongly agreeing in Area A • For Litter and Graffiti the results are even less clear with exactly the same numbers agreeing although, significantly, nearly 10% more of Area B residents 'strongly agree' than the residents of Area A • Neither area has strong disagreement levels above 35% in any of the three categories. |

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Sample A

For 'Crime' & 'Noise' Area A had more people saying disagree than area B. For 'Litter & graffiti' there were equal numbers of people disagreeing & agreeing. This shows that area A is better than B.

Sample B

For crime, area A appears to have a better⁽⁸⁾ environment as only 10% of people think it's a problem in area A compared to almost 40% in area B. This shows that crime more of a problem in area B, but probably not a huge problem in either area.

Although more people strongly agree that noise is a problem in A, more people overall in area B think agree that it's a problem. More people in area A think that it's very bad, whereas more people in area B think that it's generally bad. This shows that in a few parts of A, it's very noisy, but it's noisy all over area B. ~~so~~ therefore, area A has a better environment as for the most part it's less noisy.

About the same number of people agree that litter is a problem in both areas, however more people strongly agree in area B. This shows that, for those who think the litter is bad, most think it's very bad.

Sample C

In general terms the students are correct although they were not actually measuring which area had the best environment but how people who live there think about their areas. If they wanted to see how it really is they could use the Living Environment part of the IMD data or they could use an Environmental Quality Survey of their own. It is also true that they only asked three questions and there are other ways are measuring the environment like ~~noise~~ gardens and open space and traffic which made a huge difference. The data shows that the view of crime is hugely different with only 10% of A people thinking it to be a problem whilst 30% in B agree or strongly agree. It isn't quite so clear for noise which is obviously much more of a problem in both places with over 50% agreeing in A and over 70% in B. It is interesting to note that the A people are MORE likely to strongly agree than in B so mixed results. Things are pretty even for Litter and graffiti with exactly the same disagree numbers. So it is quite a complicated picture overall and we don't know whether these people were a fair choice – if they are all old people in one area and all children in another then that that might be why. That would make the conclusion wrong or at least misleading.