Geography B GCSE

OCR
Oxford Cambridge and RSA

ONW Physical Geography Enquiry Geogjoe

Please note that you may see slight differences between this paper and the original.

Candidates answer on the Question paper.

OCR supplied materials:
Additional resources may be supplied with this paper.

Other materials required:
- Pencil
- Ruler (cm/mm)

Duration: 50 mins

INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions, unless your teacher tells you otherwise.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Where space is provided below the question, please write your answer there.
- You may use additional paper, or a specific Answer sheet if one is provided, but you must clearly show your candidate number, centre number and question number(s).

INFORMATION FOR CANDIDATES

- The quality of written communication is assessed in questions marked with either a pencil or an asterisk. In History and Geography a *Quality of extended response* question is marked with an asterisk, while a pencil is used for questions in which *Spelling, punctuation and grammar and the use of specialist terminology* is assessed.
- The number of marks is given in brackets **[ ]** at the end of each question or part question.
- The total number of marks for this paper is **52**.
- The total number of marks may take into account some 'either/or' question choices.

1. A group of students are planning some fieldwork to investigate the social impacts of climate change.

Study the extract below.

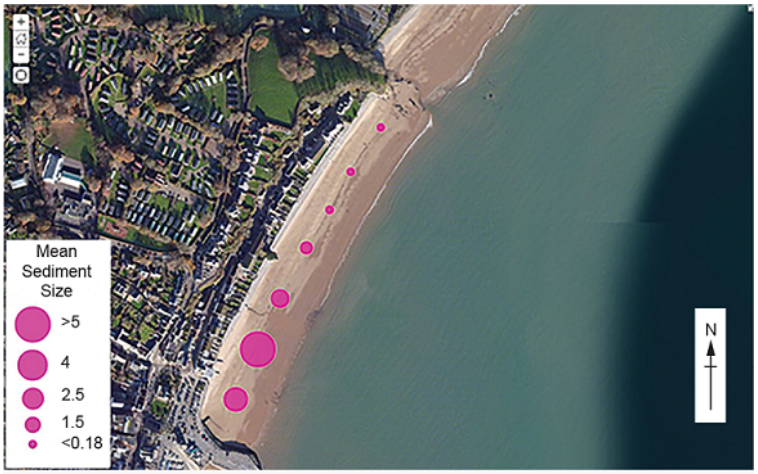
> Climate change in the UK is causing rising temperatures, with the summer months becoming hotter. The summer months could see drought conditions, however the winter months will be wetter with an increased frequency of flooding.

Using the extract above, explain **one** fieldwork technique which could be used to identify social impacts of climate change.

---[3]

2(a). Study **Fig. 4**, students' data presentation from physical geography fieldwork data. (See also Insert for J384-01, June 2018.)

Fig. 4 Students' data presentation from physical geography fieldwork data



A student has used GIS to present their findings on changes in beach sediment size.

Suggest what **Fig. 4** indicates about the pattern of beach sediment size along the shore.

--- [2]

(b). * You will have carried out some physical geography fieldwork as part of your GCSE Geography course.

Name the fieldwork ---

To what extent was your primary data collection successful?

[8]

Spelling, punctuation and grammar and the use of specialist terminology [3]

3.

∗ **Figs 5, 6 and 7** show information from a GCSE geography student's physical fieldwork investigation. (See also Insert for J384/01, Specimen.)

Fig. 5 – Photograph of groyne at Sheringham

Fig. 6 – A diagram showing how to measure the depth from the top of the groyne to the beach sediment

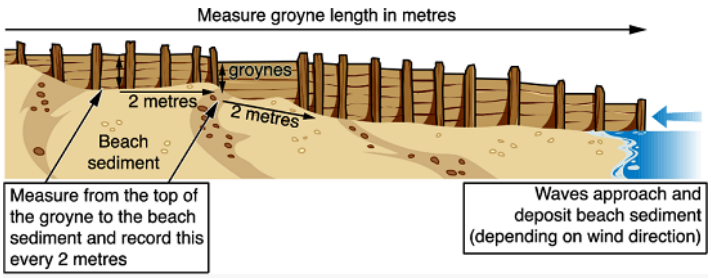
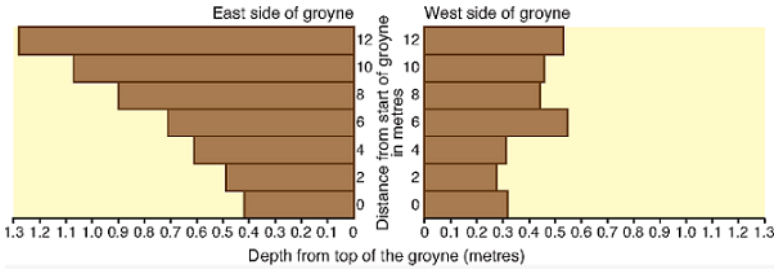


Fig. 7 – A graph of the depth from the top of the groyne to the beach sediment



Using evidence from **Figs 5, 6 and 7,** write a conclusion to the question for investigation *"Does the process of longshore drift occur at Sheringham?"* Develop your answer.

[8]

Spelling, punctuation and grammar and the use of specialist terminology [3]

4(a). You will have carried out some physical geography fieldwork as part of your GCSE geography course.

(i) Explain the suitability of **one** data presentation for your physical fieldwork enquiry.

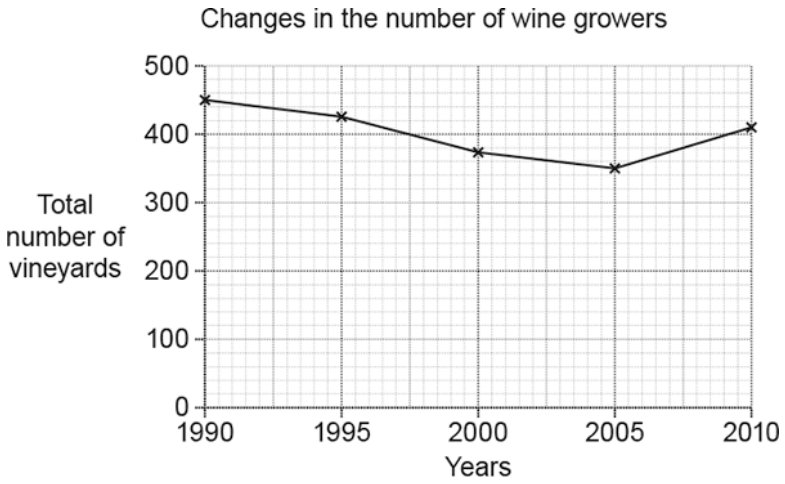
[2]

(ii) * To what extent were the enquiry processes effective in helping you carry out your physical geography fieldwork?

[8]

Spelling, punctuation and grammar and the use of specialist terminology [3]

(b). The graph below shows the changes in the number of wine growers between 1990 and 2010.



(i) Suggest **one** improvement that could be made to the data presentation technique.

[1]

(ii) Describe the pattern of the data shown on the graph.

[1]

5.

The table below shows part of a data collection sheet from a physical fieldwork investigation.

Site Number:	Seven										
Stream width:	13.7 metres										
Stream depth (recorded every metre):											
0.16m	0.17m	0.18m	0.23m	0.29m	0.31m	0.28m	0.26m	0.23m	0.23m	0.19m	0.18m
Pebble size (sample of six pebbles):											
90mm	45mm	40mm	38mm	45mm	36mm						

(i) Using the table above, calculate the range of the pebble size.

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[1]

(ii) Using the table above, calculate the mode of the stream depth.

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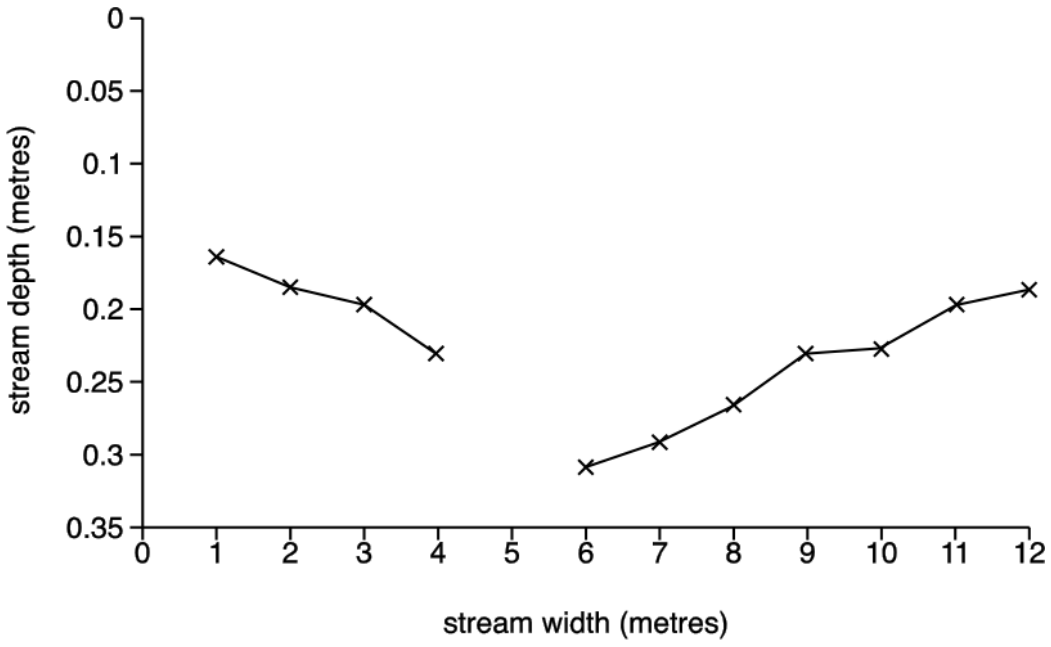
[1]

(iii) Complete the cross section below using information from the data collection sheet.



[1]

6(a).

Study the table below, which shows the results of a physical geography fieldwork investigation into longshore drift.

Groyne Number	Drop North side (cm)	Drop South side (cm)	Difference
1	27	41	14
2	31	51	20
3	28	44	16
4	25	39	14
5	32	54	22

Using data from the table, describe the pattern in the longshore drift data collected.

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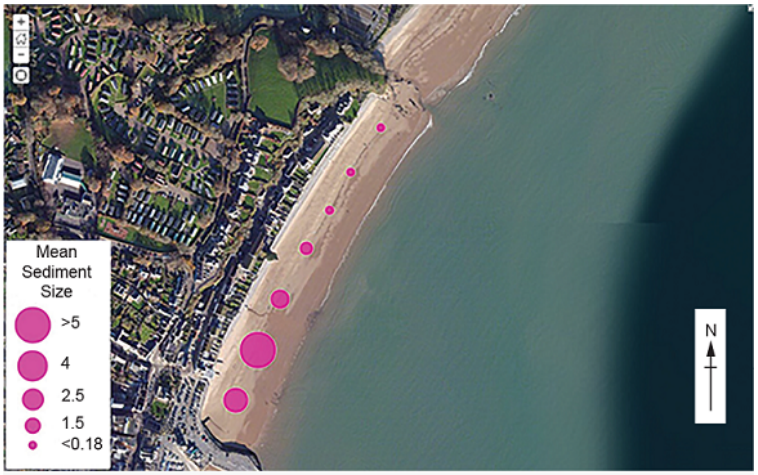
[4]

(b). State **one** way you could adapt **Fig. 4** to make it more informative. (See also Insert for J384-01, June 2018.)

Fig. 4 Students' data presentation from physical geography fieldwork data



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[1]

7.

For a physical geography fieldwork investigation which you have completed, evaluate **one** technique you used to collect data.

Technique used: ---

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[2]

END OF QUESTION PAPER

Question			Answer/Indicative content	Marks	Guidance
1			A questionnaire could be used to explore people's behaviours and lifestyle choices in response to climate change (✓). Questions could ask people about where they go on holiday and outdoor leisure activities (✓). Peoples behaviours could be linked to questions about sun strength awareness and their use of sunscreen and hats (✓)	3	3 × 1 (✓)
			Total	3	
2	a		Largest mean sediment size is to the south/south west of the shoreline shown/ the (four) smallest sites for sediment size are all towards the north of the shore (✓) Only the two sites furthest south have a mean sediment size above 2.5 (✓) The smallest variation in sediment size is towards the north of the beach (✓) The largest sediment size is at the 2nd most southerly site (✓)	2	2 x 1 (✓) for valid points about the pattern of beach sediment size along the shore Development awarded with (✓) as a further valid explanation No credit for Up/ down Top/ bottom Data can be used to exemplify a valid pattern only. <u>Examiner's Comments</u> There were a disappointing number of responses that used words like up/down and left/right rather than north or south. There were also a lot of answers that identified a correct pattern and then stopped, meaning that they cannot get full marks. The easiest way to get the second mark was to use data or to identify the anomaly. Candidates need to be careful not to write two sentences that are directly opposite, the largest sediment is to the south and the smallest sediment is to the North, as this will only get one mark.

Question			Answer/Indicative content	Marks	Guidance
	b		Own Fieldwork Level 3 (6–8 marks) An answer at this level demonstrates a **thorough** evaluation (AO3) of the primary data collection methods used with a **thorough** judgement as to the extent of their success (AO3). This will be shown by including **well-developed** ideas. There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated. Level 2 (3–5 marks) An answer at this level demonstrates a **reasonable** evaluation (AO3) of the primary data collection methods used with a **reasonable** judgement as to the extent of their success (AO3). This will be shown by including **developed** ideas. There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence. Level 1 (1–2 marks) An answer at this level demonstrates a **basic** evaluation (AO3) of the primary data collection methods used with a **basic** judgement as to the extent of their success (AO3). This will be shown by including **simple** ideas. The information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear. 0 marks No response or no response worthy of credit. Spelling, punctuation and grammar and the use of specialist terminology (SPaG) are assessed using the separate marking grid in Appendix 1.	8 3	This question will be marked using 3 levels: Indicative content Evaluation of the success of data collection methods, this could include both positive and negative reflections, allowing the candidate to make a judgement on its success. Examples of **well-developed** ideas: To a large extent our data collection methods were successful. We measured the velocity of the river at different locations along the rivers course; we did this five times and took a mean at each location which increased the accuracy of the results, this was important to produce more secure analysis and conclusions. However a limitation is that at times the float used to measure velocity got caught in the stones in the river bed, this meant that human intervention was required and would have affected the final mean. Examples of **developed** ideas: I feel our data collection was successful. We measured the velocity of the river; we did this five times to increase the accuracy of the results. This was an effective method as I was able to compare the velocity at different points along the river which helped answer the overall question. However at times the float used to measure velocity got caught in the stones. Examples of **simple** ideas: We floated an orange down the river and timed how long it took. This worked well as we could work out the rivers' speed. <u>Examiner's Comments</u> Most of the fieldwork appears to have been river or coast based, although there were a

Question			Answer/Indicative content	Marks	Guidance
					few other examples. Footpath erosion was allowed as physical fieldwork. Some of the techniques, such as EQIs, were assumed to be physical as there was not enough detail to judge as their content was not clear. A small minority of students wrote about human fieldwork and they were limited to Level 1. It is possible to achieve the marks by looking at the original design of the fieldwork or by assessing the techniques used. Effective answers looked at only one or two techniques, highlighting the benefits and the problems of that technique and coming to an assessment of the level of success. This may have been comments about the reliability, validity or repeatability of results. Level 1 answers tended to be descriptive in nature saying what the candidate did but not going any further than that. Level 2 answers usually made an implicit attempt at addressing the successfulness of the fieldwork. Responses that tried to link the success of the fieldwork to the hypothesis are not worth any credit. Results that are successful because they allowed you to draw a graph or to answer a hypothesis do not gain a lot of credit as they don't say why. It would be possible to use very poor techniques that collect inaccurate data to draw a graph or for a hypothesis to be proven.
			Total	13	

Question			Answer/Indicative content	Marks	Guidance
3			**Level 3 (6–8 marks)** The answer must include a **thorough** analysis of the fieldwork data (AO3) to come to a **thorough** conclusion that answers the question (AO3). This will be shown by including **well-developed** ideas. There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated. **Level 2 (3–5 marks)** The answer must include **reasonable** analysis of the fieldwork data (AO3) with **reasonable** conclusion to help answer the question “Does the process of longshore drift occur at Sheringham?”(AO3). This will be shown by including **developed** ideas. There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence. **Level 1 (1–2 marks)** The answer will include **basic** analysis of the fieldwork data (AO3) to come to a **basic** conclusion answering the question “Does the process of longshore drift occur at Sheringham (AO3). This will be shown by including **simple** ideas. The information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear.	8	Conclusion: LSD occurs from west to east – supporting evidence from **Figs 5, 6** and **7** large fetch = movement of sediment More sediment on the west than east Example of **well-developed** ideas: From the figures it can be concluded that longshore drift does occur at Sheringham. The raw data in the table illustrates the differences in the sediment levels either side of the groyne which shows more sediment build up on the west side than on the east side. There is a difference of 2.62m of sand built up between the east and west side of the groyne. This indicates longshore drift is occurring and the groyne is working effectively to trap sand and slow the process of longshore drift. Example of **developed** ideas: The table shows a difference in the amount of sediment on the east and west side of the groyne therefore longshore drift does occur. For example at 12m there is a 0.53m of sand on the east compared to 1.28m on the west. The graph shows an overall greater amount of sand on the west hand side of the groyne, indicating that longshore drift does occur. Example of **simple** ideas: Longshore drift does occur at Sheringham, you can se this from the graph where there is more sand on one side of the groyne.

Question			Answer/Indicative content	Marks	Guidance
			0 marks No response or no response worthy of credit. Spelling, punctuation and grammar and the use of specialist terminology (SPaG) are assessed using the separate marking grid in Appendix 1.	3	
			Total	11	

Question			Answer/Indicative content	Marks	Guidance
4	a	i	The cross section of the river diagram clearly showed where there was a steep bank and a shallow bank (✓) which could then be labelled with further information about geomorphic processes (✓). The cliff profile sketch was suitable for highlighting the geology of the coastal location (✓), annotations added to the sketch showed rock strength and features of the cliff (✓).	2	2 × 1 (✓) Expect a wide range of data presentation techniques. Presentation technique must be related to physical fieldwork
		ii	Own Fieldwork Level 3 (6–8 marks) An answer at this level demonstrates a **thorough** evaluation of the how enquiry processes helped when carrying out physical fieldwork (AO3). There will be a **thorough** judgement of the extent to which the enquiry processes were effective in helping to carry out the fieldwork (AO3). This will be shown by including **well–developed** ideas. There is a well–developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated. Level 2 (3–5 marks) An answer at this level demonstrates a **reasonable** evaluation of the how enquiry processes helped when carrying out physical fieldwork (AO3). There will be a **reasonable** judgement on the extent to which the enquiry processes were effective in helping to carry out the fieldwork (AO3). This will be shown by including **developed** ideas. There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence.	8	Indicative content Candidates could refer to the enquiry process as a whole and/or the enquiry processes such as: Developing a question suitable for investigation Gathering relevant evidence through data collection Presenting and analysing evidence Drawing conclusions from evidence Critical reflection at each stage of the enquiry process Examples of **well–developed** ideas: My physical fieldwork was carried out at The River Ise in Northamptonshire. The enquiry process started with the enquiry question, it was important that this was a question which could be investigated in the field. I used a hypothesis as a testable question so I wouldn't just get a yes / no answer which was better for analysis. My data collection was at the River Ise where I gathered data on river velocity, channel width and depth and bedload samples which were all relevant to my hypothesis. Critically reflecting on my data collection, I found that some sites were difficult to access due to vegetation. I needed to repeat readings at least 3 times to get averages for improved accuracy however this was challenging on site as the river channel was narrow. It was important to have at least 10 sets of data so that I could analyse results and show relationships between the variables such as velocity and channel area.

Question			Answer/Indicative content	Marks	Guidance
			Level 1 (1–2 marks) An answer at this level demonstrates a **basic** evaluation of the how enquiry processes helped when carrying out physical fieldwork (AO3). There will be a **basic** judgement on the extent to which the enquiry processes were effective in helping to carry out the fieldwork (AO3). This will be shown by including **simple** ideas. The information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear. **0 marks** No response or no response worthy of credit. Spelling, punctuation and grammar and the use of specialist terminology (SPaG) are assessed using the separate marking grid in Appendix 1.	3	Examples of **developed** ideas: My physical fieldwork was carried out at The River Ise in Northamptonshire. I had a question which could be investigated in the field which was testable as this would help my analysis. My data collection included speed of the river, channel area and pebbles from the river bed which were all relevant to my key question. I found vegetation to thick in places to get to the river. I did averages for my data collection to try and make it accurate. For my analysis I tried to relate bits of data together so that I could see whether one thing affected another in the river. Examples of **simple** ideas: I went to a river for my fieldwork where we went in to get stones from the bottom. The river was quite slow but we measured this. I drew graphs to show my data.
	b	i	As the total number of vineyards is always 300 or above, amend the vertical axis to be more detailed showing between 300–500 (✓) Independent variables on the graph so this could be shown as a bar graph (✓)	1	(✓)
		ii	The graph shows the number of wine growers rising and falling over the 20 year period (✓)	1	(✓)
			Total	**15**	
5		i	54mm (✓)	1	(✓)
		ii	0.23m (✓)	1	(✓)
		iii	1 mark for correctly completing the graph with 0.29 point and joining the points on the graph	1	(✓)
			Total	**3**	

Question			Answer/Indicative content	Marks	Guidance
6	a		Longshore drift is moving sand South (✓) There is a much greater drop on the south side of the groyne than the north side (✓) The highest drop on the south side is 54cm but only 32cm on the north side (DEV) The difference in the drop between the North and South side of the groyne is varied (✓) The drop ranges from 14cm to 22 cm (DEV) The largest difference is groyne 5/ the smallest difference is at groyne 1 and 4 (✓) The drop on the North side of the groyne is more consistent that the drop on the South side (✓) There is no relationship between the position on the beach and the size of the drop (✓)	4	2 x 1 (✓) for describing the pattern of data shown. 1 x 1 (DEV) for using data from the table 1 x 1 (C) for communicating the answer in an appropriate and logical order. Do not credit The difference in drop between the North and South side of the groyne is consistent. <u>Examiner's Comments</u> This question challenges candidates to visualise what is happening at groynes and drawing a diagram may have helped, enabling them to understand what the table is showing. A lot of candidates were able to identify that the drop on the north side of the groyne was smaller than that on the south side. Some candidates did not understand that this was the drop and instead thought that this was the amount of sand that had been piled up on each side of the groyne. There were some candidates that compared changes between groynes 1-5 rather than north/south. This was also acceptable but was a more difficult pattern to describe. There was one mark for using data from the table to exemplify the pattern with some possible examples in the mark scheme. The third mark is for identifying a pattern within the data. This could be where the highest or lowest difference is, the consistency of the data or the direction of longshore drift. This was the third question in the paper where a communication mark could be awarded. The answer needs to be written in a logical order moving from a general point to another which is more specific and developed (including data) to gain this mark with the TEA acronym being a useful template for describe the pattern questions.

Question			Answer/Indicative content	Marks	Guidance
	b		Insert a scale (✓) Add units for the mean sediment size (✓) Show the precise values for each location (✓) Distance between sites (✓) Direction of longshore drift/ prevailing wind (✓) Presence/ absence of sea defences (✓) More even interval in the key (✓) Location (✓) Title (✓)	1	(✓) for valid suggestion for a way Fig. 4 could be adapted Credit data presentation techniques rather than data collection techniques (more sites). <u>Examiner's Comments</u> The question is looking at how to improve the quality of the presentation, not the underlying technique. Ideas like add units or improve the scale were the most common answers. Candidates need to be aware that only their first answer will be marked, if they feel their second is better than the first one, it needs to be crossed out clearly.
			Total	5	
7			Expect a wide range of data collection techniques Measuring river depth this technique was limited due to health and safety (✓) where high bankfull discharge meant that we could not sample enough sites (✓) Measuring river depth, this technique was useful in helping us answer our question 'how do rivers change along their course' (✓) where we were able to sample six sites which gave us a good range of sites along the rivers course (✓)	2	2 × 1 (✓) Technique must be related to physical geography No mark awarded for just stating the technique Evaluation may refer to: Limitations and merits of the technique in helping to answer the question for investigation How easy the data collected was to analyse and present Level of ease carrying out the technique at the time/day of collection
			Total	2	