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GCSE (9-1)

Examiners' report

GEOGRAPHY B (GEOGRAPHY FOR ENQUIRING MINDS)

J384

For first teaching in 2016

J384/01 Summer 2023 series

Version 1

Contents

Introduction

Our examiners' reports are produced to offer constructive feedback on candidates' performance in the examinations. They provide useful guidance for future candidates.

The reports will include a general commentary on candidates' performance, identify technical aspects examined in the questions and highlight good performance and where performance could be improved. A selection of candidate answers is also provided. The reports will also explain aspects which caused difficulty and why the difficulties arose, whether through a lack of knowledge, poor examination technique, or any other identifiable and explainable reason.

Where overall performance on a question/question part was considered good, with no particular areas to highlight, these questions have not been included in the report.

A full copy of the question paper and the mark scheme can be downloaded from OCR.

Paper 1 series overview

J384/01 is the first of three components that contribute to the GCSE 'Geography for Enquiring Minds' qualification. In 2023 this paper returned to its usual structure, with every question having to be answered. There was no indication of which areas would be examined or where in the paper the 8 mark questions would appear.

Candidates that did well demonstrated that they had knowledge and understanding of a range of locations providing place specific details of hazards, landforms, and polar management strategies.. It was important for candidates to read the questions carefully to ensure that the answer that they provided met the requirements of the questions. For example, where candidates need to show their working or calculate to one decimal place.

Candidates are developing a more successful understanding of command words, with some good explanations and examinations but this is not always backed up by sufficient place specific detail, often limiting marks to Level 2.

The paper was completed by almost all candidates; very few appeared to have run out of time, however, there were certain questions where there was a high rate of candidates not responding, suggesting gaps in learning that had not been filled by revision.

Candidates who did well on this paper generally:	Candidates who did less well on this paper generally:
• used place specific detail • provided well developed responses • had learnt key terms • identified the correct case study • used BUG to help decode the question.	• wrote generic responses • used lists or very short sentences • did not know what key words meant • used the wrong case study.

Section A overview

Section A tends to have point marked questions followed by higher level marked questions, often based on a case study. The shorter mark questions tend to test candidates key word recognition, geographical skills, and mathematical calculations. Extended writing and the ability to link place specific detail, understanding and evidence together is tested in the longer questions. This section provides good differentiation between responses allowing for some high-quality extended writing. Some questions were left unanswered at a much higher level than in previous papers.

Question 1 (a) (i)

Global Hazards

1 (a) (i) Identify the type of **plate movement** that occurs at a destructive plate boundary.

A plates move away from each other

B plate moves over rising magma

C plates move past each other

D plates move towards each other

Write the correct letter in the box. ☐ **[1]**

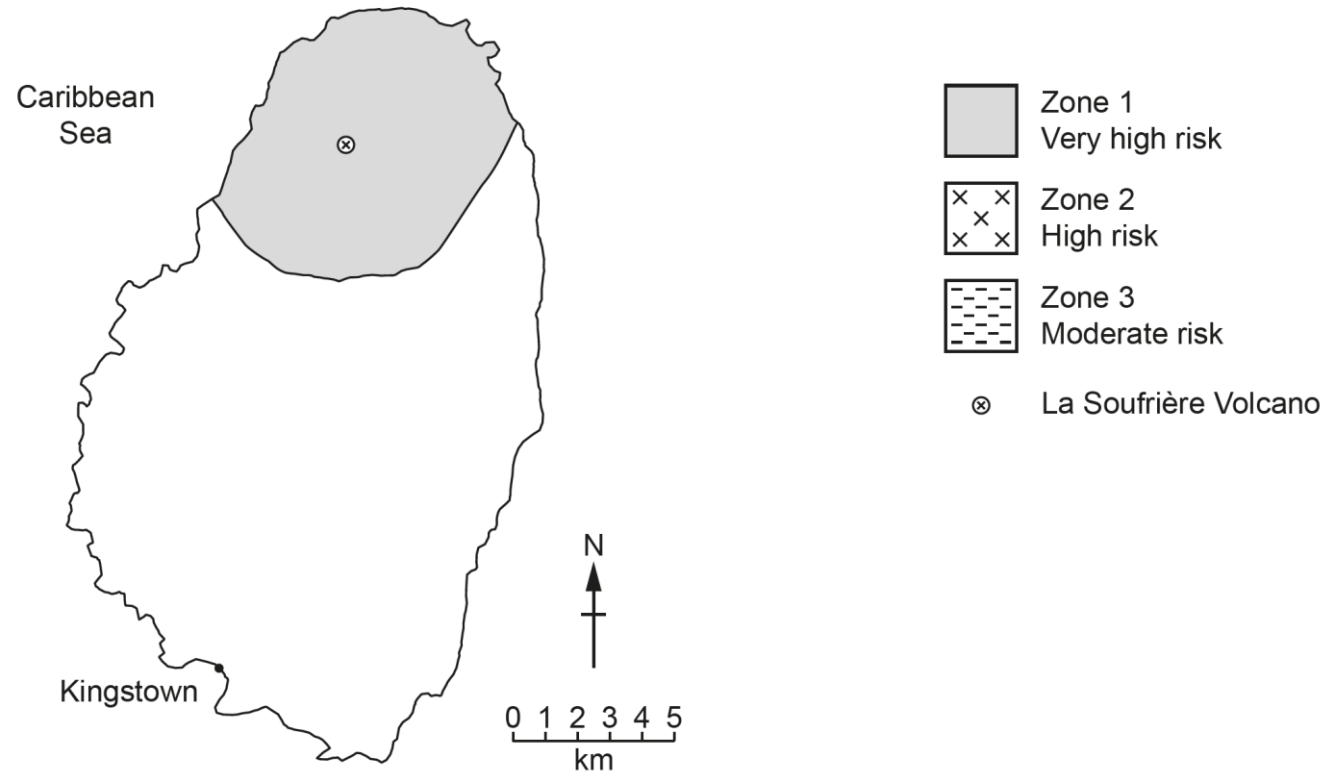
The correct response was D. Many candidates responded to this question correctly. Some candidates drew little diagrams to help them work out the correct response.

Question 1 (a) (ii)

(ii) Use the information in the table below to **complete** the volcanic hazard map for the island of St Vincent. Zone 1 has been completed for you.

Zone	Distance from La Soufrière Volcano
2 High risk	4–7 km
3 Moderate risk	7–10 km

Volcanic Hazard Map for the Island of St Vincent



[3]

Candidates that used a ruler were able to locate the two zones accurately, creating a curved zone from the volcano. When the zones were drawn inaccurately, most candidates were able to get the mark that was given for correct use of the key. The most common reason for the response not gaining marks was extending the moderate risk zone to the extreme south of the island or not providing a response.

Question 1 (b) (i)

(b) The movements of tropical storms like hurricanes can be plotted on graphs. This is called the **track** of a hurricane.

The graph shows the **track** of a hurricane in the western Atlantic Ocean.

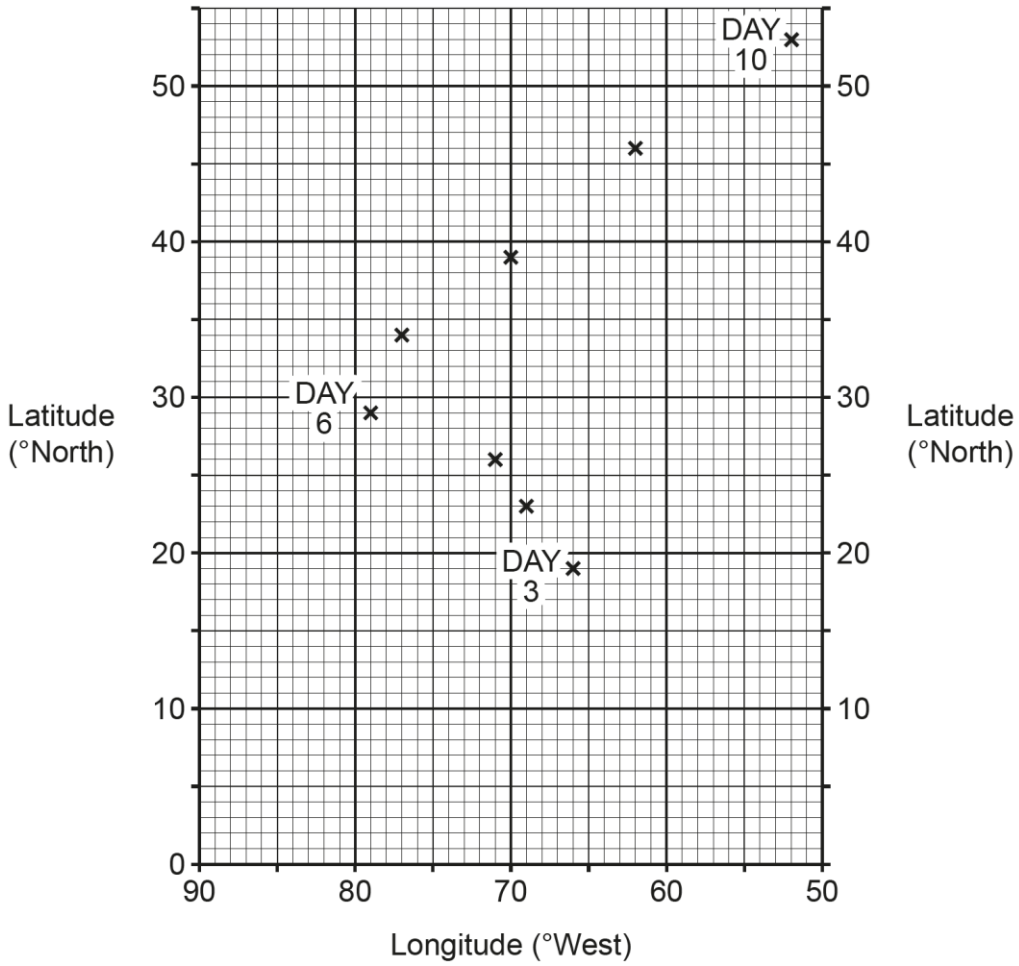
(i) Use the data in the table to complete the hurricane **track**.

	°West	**°North**
Day 1	59	13
Day 2	64	17

[2]

Most candidates observed that the x-axis, showing longitude, had the greatest values to the left of the graph and were able to locate the points correctly. Most incorrect responses plotted a point at 61 or 66 degrees West.

Question 1 (b) (ii)



(ii) Suggest **one** way this graph could be adapted to improve it.

.....

..... **[1]**

Most correct responses tried to improve the graph by adding extra detail to the existing information. This could include joining the points together to show the track of the hurricane, labelling all the days, or adding a map underneath the graph. Some candidates didn't understand the graph and wanted to change it to a bar graph, thought it was a scattergraph that needed a line of best fit or wanted to reverse the direction of the longitude axis.

Question 1 (c)

(c) CASE STUDY

A natural weather hazard arising from extreme weather conditions

Name of a chosen natural weather hazard .....

Explain the **consequences** of the natural weather hazard.

.....

.....

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.....

.....

..... **[6]**

To achieve Level 3 a response had to demonstrate **thorough** knowledge (AO1) and **thorough** understanding (AO2). The most common case studies that were used to demonstrate knowledge were Typhoon Haiyan, Boscastle Flood, The Big Dry and UK drought. Either a UK or non-UK weather hazard were acceptable as the question did not specify. Some candidates named a weather hazard and then provided a generic response that could apply to any similar weather hazard. This was particularly true of UK droughts where consequences, such as hose pipe bans, could apply to droughts from different years. To show thorough knowledge of their case study, candidates need to provide relevant place specific detail. This could be knowledge of the level of damage to settlements like Boscastle or Tacloban, or the aid that was provided.

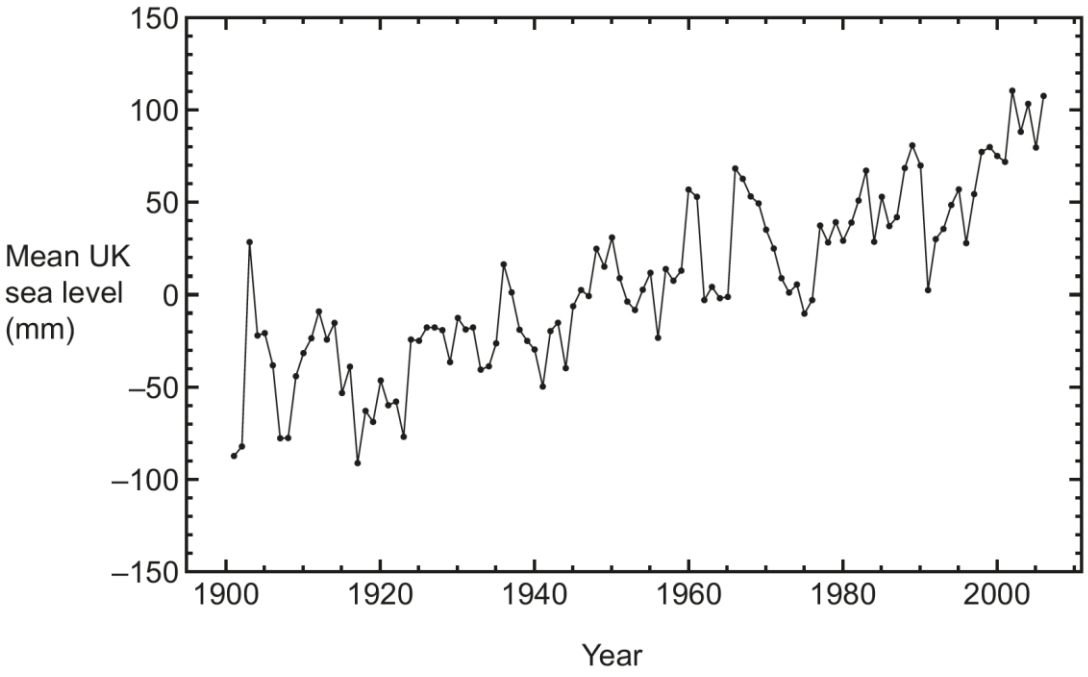
Thorough understanding was displayed by constructing well developed paragraphs that link place specific facts together to provide a commentary on the consequences of the natural weather hazard.

A maximum of 3 marks were given to responses that provided thorough understanding of a tectonic hazard. No marks were given for knowledge as candidates were writing about an inaccurate location, therefore, marks could not be awarded for A01, place specific detail.

Question 2 (a)

Changing Climate

2 (a) The graph shows **changes** in mean UK sea level from 1900 to 2010.



Suggest how the **changes** in mean UK sea level could be linked to global temperatures.

.....

.....

.....

..... **[2]**

1 mark was given for linking a rise in temperature to the melting of ice/thermal expansion. The other mark was given for linking the melting of ice/thermal expansion to a rise in sea level. The candidate didn't have to differentiate between sea ice and ice caps/sheets/glaciers. The melting of sea ice doesn't directly raise sea levels, but it may lead to glaciers flowing faster and increasing sea level indirectly. Candidates also need to be specific about using 'increase' rather than the more generic 'change'. Responses that stated that there had been a change in temperature leading to a change in the amount of ice did not gain any marks.

Misconception

Melting sea ice does not raise sea levels.

For further support with the Changing Climate topic there are a number of websites which may be useful:

Climate change sea levels briefing paper

IPCC - Is Sea Level Rising?

IPCC - Sea Level Rise (PDF)

Question 2 (b) (i)

(b) (i) What is **sea ice**?

A frozen ocean water

B frozen river water

C icebergs and glaciers floating on the sea

D ice from land floating on the sea

Write the correct letter in the box. [ ] **[1]**

The correct response was A. The most frequent incorrect response was C. C is incorrect as glaciers are land ice. Chunks of ice break off from the glacier entering the sea/ocean becoming icebergs.

Question 2 (b) (ii)

(ii) Look at **Fig. 1** in the Resource Booklet.

Fig. 1 shows changes in winter sea ice volume in the Arctic, 1980–2010.

Calculate the **mean** annual volume of ice loss.

Show your working.

..... km^3/year **[2]**

This question proved challenging. Most candidates added the values together rather than subtracting them and then divided by 3 rather than 30. 1 mark was available for one accurate step in the calculation.

Assessment for learning

Practice showing working during calculations. Correct responses with no working are only worth one mark.

Question 2 (c)*

(c)* Assess the extent to which climate change is a **natural** process.

.....

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.....

..... **[8]**

A **thorough** understanding of human or natural causes of climate change was required for a Level 3 response. Most candidates were able to give a range of natural causes such as burning fossil fuels, deforestation, and the intensification of agriculture, with explanations of how these produced greenhouse gases and impacted on the atmosphere. Fewer candidates were able to give natural causes such as sunspots, volcanic eruptions, or Milankovitch cycles and the quality of the understanding of natural causes was not as well developed.

The response also needed **reasonable** analysis and **thorough** judgement. This proved to be more difficult for candidates. Candidates need to go beyond basic statements about whether it is or isn't natural. Consideration of the rate of change provided by human or natural causes, or the importance of individual causes are both ways that responses can be made more complex and reach Level 3.

Assessment for learning

Practice writing PEEL paragraphs using connectives like 'because' 'therefore' or 'however' to develop the quality of responses. This is particularly helpful when answering questions which ask candidates to assess and evaluate.

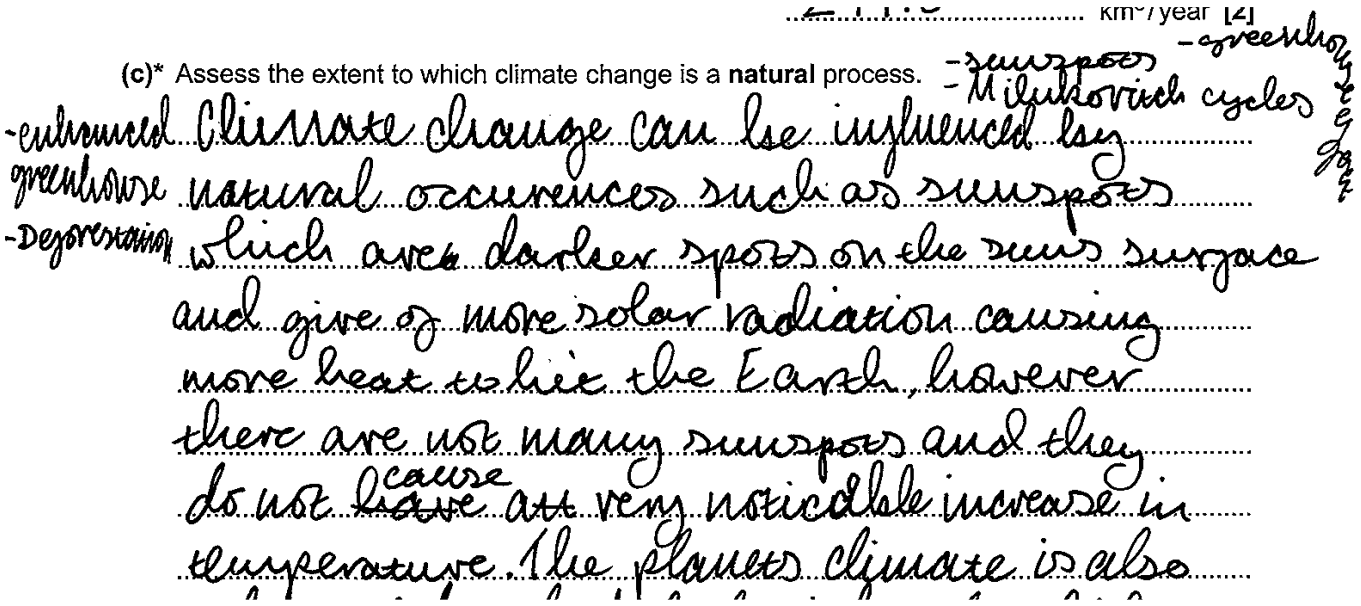
Misconception

Methane from agriculture is not a natural cause of climate change.

The impact of natural and human causes of climate change should not be considered equal.

The ozone layer plays no part in climate change.

Exemplar 1



km²/year [2]

(c)* Assess the extent to which climate change is a **natural** process.

-sunspots -greenhouse effect -Milutkovich cycles

-enhanced Climate change can be influenced by greenhouse natural occurences such as sunspots -Deforestation which are darker spots on the suns surface and give of more solar radiation causing more heat to hit the Earth, however there are not many sunspots and they do not cause a very noticable increase in temperature. The planets climate is also

In Exemplar 1, the candidate demonstrates thorough understanding of sunspots and how they can heat the Earth. They show that they know the darker spots are the source of the increase in solar radiation and explain that this is responsible for the increased heating of the Earth.

The candidate then demonstrates thorough analysis of their relative importance as a cause of climate change. The use of the word 'however' shows that the candidate has considered more than one aspect and this adds to the quality of the assessment. The analysis focuses on the number of sunspots and their minor impact on the change in temperature.

Candidates that analysed each cause individually were able to create a more thorough analysis.

Question 3 (a)

Distinctive Landscapes

3 (a) Identify the correct definition of a **landscape**.

A everything that can be seen that is natural or man-made

B land that has been altered by human activity

C land that has been built on before

D urban green spaces that are looked after by people

Write the correct letter in the box. [ ] **[1]**

A was the correct response. Most candidates identified it correctly.

Question 3 (b) (i)

(b) Look at **Fig. 2** in the Resource Booklet.

Fig. 2 shows a map of UK upland, lowland and glaciated areas.

(i) Using **Fig. 2** identify **one** similarity and **one** difference between the location of upland and glaciated areas in the UK.

Similarity .....

.....

.....

Difference .....

.....

.....

[2]

The diagram was not well understood. A high proportion of candidates thought that the line marked the maximum northern glacial extent rather than the southern. This led to candidates mixing up the similarity and difference and gaining no marks. A further issue was the imprecise use of terminology with candidates describing the upland areas being above the line of maximum glacial extent.

Misconception

Glaciers spread from the Equator.

Assessment for learning

Practice using compass points to reference direction appropriately, so as not to use language such as up, down, above or below.

Question 3 (b) (ii)

(ii) Suggest **one** reason for the **similarity** you have identified.

.....

..... **[1]**

Identifying that upland areas were colder was the most common correct response.

Question 3 (c)

(c) Explain the formation of a river **levee**.

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.....

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.....

.....

..... **[3]**

Candidates that know what a levee is usually gained full marks. They sequenced how a levee is formed, for example levees are formed by floods, deposition occurs when the energy in the river decreases, the largest sediments are deposited first and levees are the result of repeated flooding and deposition. There was a high proportion of candidates that explained the formation of waterfalls, v-shaped valleys, or oxbow lakes. There were a high proportion of responses that were left blank.

Assessment for learning

Create and use a checklist to make sure that revision covers the whole specification.

Question 3 (d)

(d) CASE STUDY

Coastal landscape in the UK

Name of a UK coastal landscape you have studied .....

Explain the formation of **one** landform formed by **geomorphic** processes in your chosen coastal landscape.

.....

.....

.....

.....

.....

..... **[6]**

Candidates were able to provide a clear sequence of steps, from the crack to the stack when explaining the formation of Old Harry but candidates were less able to explain the formation of Chesil Beach or the cliff in Walton-on-the-Naze. Key terms, such as corrasion, hydraulic action and chemical weathering were used appropriately to help explain the formation. There were a lot of generic descriptions of stack formation, which would be capped at 3 marks. Naming a location is not enough place specific detail.

Exemplar 2

Name of a UK coastal landscape you have studied ....Dorset coast....

Explain the formation of **one** landform formed by **geomorphic** processes in your chosen coastal landscape.

Stump *~~Stack~~

One coastal landform that is evident on the dorset coast is a ~~Stack~~ ~~Stack~~ *~~Stump~~ This begins to form when cracks appear in a cliff. These cracks are expanded by geomorphic ~~the~~ processes such as freeze thaw weathering and hydrolic action to form a cave. The cave eventually erodes through the cliff and forms an arch. The walls will begin to erode away until they are no longer able to hold the roof which will then collapse. This will leave a Stack. ₤Over time the base of the Stack will erode away and will collapse, forming a stump. [6]

In Exemplar 2 there is an accurate explanation of the formation of a stack that was given 3 marks. Locating it on the Dorset coast and naming it as Old Harry would not be enough place specific detail to gain more than 3 marks. More detail, such as the rock type, would change this response from a generic to a specific one. Some examples of place specific detail include rock types, whether the coastline is concordant or discordant, the direction of longshore drift forming a spit or the name of a river that the spit forms across.

Question 4 (a) (i)

4 (a) Look at **Fig. 3** in the Resource Booklet.

Fig. 3 shows the average daily sunshine hours per month for a polar Arctic region.

(i) Identify which month is most likely to be **light** throughout the night.

..... **[1]**

Most candidates identified June as the correct response. January and July were the most common wrong responses. Several candidates gave several months as part of their response.

Question 4 (a) (ii)

(ii) The Arctic **summer** lasts for three months from June to August.

Calculate the **total summer** sunshine hours.

..... **[1]**

69 was the most common incorrect response. This response was calculated by adding the total for each day rather than multiplying by the number of days in each month.

Question 4 (a) (iii)

(iii) Select an **alternative** method that would be **appropriate** to present the data shown in **Fig. 3**.

A line graph

B radial graph

C rose graph

D scatter graph

Write the correct letter in the box. ☐ **[1]**

A was the correct response and was given by most candidates.

Question 4 (b)

(b) Identify and explain **two** features of flora that allow them to **survive** in polar environments.

1 .....

.....

.....

.....

2 .....

.....

.....

.....

[4]

A number of candidates misidentified flora as animals and wrote about polar bears or penguins, gaining no marks.

The best responses identified a specific adaptation of the plant and explained how this allowed them to survive in a polar environment. These were specifically linked to an aspect of the climate, such as strong winds or cold temperatures. It was important that the two developments were sufficiently different from each other to avoid repetition.

Some responses provided adaptations that are common to all plants, such as they can photosynthesise to produce glucose, these did not receive any marks. There were also some generic statements, such as large roots, which were not given marks.

Exemplar 3

plants

Identify and explain **two** features of flora that allow them to **survive** in polar environments.

1 Some plants (flora) can survive in the polar environment, because they have adapted a tempeature- in which they can still grow.

2 flora can store food inside, so they can live and stay healthy with food that is provided by them.

In Exemplar 3 you can some examples of vague statements that did not receive any marks.

Assessment for learning

Practice identifying specific adaptations (flora and fauna) and explain how these adaptations allow the flora and/or fauna to survive in different environments

Misconception

Flora describes plants not animals.

Plant roots can be long enough to reach below permafrost.

Question 4 (c)

(c) CASE STUDY

Small-scale example of sustainable management in either the Antarctic or the Arctic

Name of a sustainable management example .....

Examine the **usefulness** of small-scale management in providing a sustainable solution for your chosen polar environment.

.....

.....

.....

.....

.....

..... **[6]**

Level 3 responses required **thorough** knowledge and **thorough** understanding of the usefulness of a small-scale management example. The word useful allowed candidates to determine who it was useful to, with the most popular choices being conservationists and tourists. There was no need to name a group as it was implicit in the response that the candidate gave.

A high proportion of candidates wrote about management strategies at the wrong scale, such as the Antarctic Treaty, or attempts to reduce whaling by international organisations. This could achieve a maximum of 3 marks for thorough understanding of the usefulness of small-scale management but gained no marks for knowledge. There were also a lot of responses that mixed up the location of different schemes, species, and poles, limiting the marks that could be given.

The most common case studies that were used were Clyde River Whale Sanctuary and the Union Glacier camp. There were some responses that used the management of Svalbard. This is a difficult case study to use as it is quite a large island and not all strategies are used across the whole island.

Assessment for learning

The word 'however' is an excellent way for candidates to examine as they are able to expand on their responses giving opposing ideas

Misconception

There is no Arctic Treaty.

Polar bears do not live in Antarctica.

Section B overview

Candidates need to avoid generic responses which could relate to any fieldwork in any location and use specific details from their fieldwork. Candidates also need to be familiar with specific terminology, like data collection and data presentation, so they are using the correct information to answer the question.

Question 5 (a)

Physical geography fieldwork

5 (a) Justify the selection of **one** technique you have used to **present data** for a fieldwork investigation you have completed.

.....

.....

.....

..... **[2]**

A number of candidates wrote about data collection and received no marks. To gain marks, it was important to define what type of data presentation technique was being used so that the justification can be deemed appropriate. Candidates that wrote about river or beach profiles scored well as they were able to explain how their graphs showed the shape of the river channel/beach and allowed different areas to be compared.

Question 5 (b) (i)

The table shows the length of time it took for the orange to travel 10 m at each place across the meander.

Place on river bend	Attempt 1 (seconds)	Attempt 2 (seconds)	Attempt 3 (seconds)	Mean (seconds)	Mean Speed (metres per second)
A	28	26	22	25.3	
B	32	33	34	33.0	
C	38	32	33		0.3

(i) Calculate the **mean** speed of the river at place A and place B.

Write your answer to **one** decimal place.

You may find the following formula useful.

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

Place A .....

Place B .....

[2]

Most candidates were able to accurately calculate the correct values. The most common error was dividing time by distance or not giving a response to one decimal place.

Question 5 (b) (ii)

(ii) Calculate the **mean** time taken at place C.

Write your answer to **one** decimal place.

Place C ..... **[1]**

Most candidates were able to accurately calculate the correct value. The most common error was not giving a response to one decimal place.

Assessment for learning

Do not remove an anomaly from a calculation of the mean. For example at Place A do not remove the 22 seconds value before the calculation

Question 5 (b) (iii)

(iii) Suggest **two** observations about the data collected in the table.

1 .....

.....

2 .....

.....

[2]

Any valid observation from the table was given marks. This includes observation comparing the inside and outside of the meander, comparing the first and last attempt in each location and identifying anomalous data. Errors from the calculations were carried forward so that candidates were not penalised twice.

Question 5 (iv)*

(iv)* Look at the table below, that shows the method the students used to collect the fieldwork data.

Place on river bend	Attempt 1 (seconds)	Attempt 2 (seconds)	Attempt 3 (seconds)	Mean (seconds)	Mean Speed (metres per second)
A	28	26	22	25.3	
B	32	33	34	33.0	
C	38	32	33		0.3

Suggest how the data collection method could be **improved**.

.....

.....

.....

.....

.....

..... **[8]**

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

Candidates were able to identify a range of improvements that could be made to the fieldwork data collection. Some of these were aimed at improving the precision of the data collection. More precise timing, the use of a flowmeter or suggestions about how to measure 10 metres along a curve were the most popular responses. Other common responses dealt with the repeatability of the fieldwork, measuring more points across the meander, measuring more meanders along the river, or returning on different days. Taking rocks or other items from the river is not a valid response.

Identifying issues was not the main issue. Candidates frequently identified an improvement and developed the idea by explaining that it would make their fieldwork more accurate, then moving on to a second, third or fourth idea. Answers that reached Level 3 took one or two ideas and fully developed why it would be more accurate, whether it increased the precision or representative nature of the data and how their improvement might influence the results.

Assessment for learning

1 or 2 well detailed suggestions are given higher marks than 4 or 5 ideas written about more briefly.

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