

Examiner Marked Student Responses



GCSE (9-1) Geography A and B

Pearson Edexcel Level 1/Level 2 GCSE (9-1) in Geography A (1GA0)

Pearson Edexcel Level 1/Level 2 GCSE (9-1) in Geography B (1GB0)

GCSE Geography (9-1) Examiner Marked Student Responses

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Introduction

This guide has been put together using student responses to our sample assessment materials in GCSE (9-1) Geography A and B. For consistency and comparability, we use the same question types, command words and levels based mark schemes throughout our GCSE Geography (9-1) A and B exam papers. The answers and examiner commentaries in this guide can be used to show the standards across both specifications because the assessments are comparable.

In this guide we have grouped the answers according to the question types that may be used in the exam papers. We use a mixture of question types throughout our exam papers, including:

- Multiple choice questions (MCQ) where students are required to select the correct answer from a choice of four (A, B, C and D) for one mark. A variation of this that might be used is where students are required to select two correct answers from a choice of five.
- Short open response: Usually a single word, up to a couple of sentences, for between one and three marks.
- Calculation: These could both be short or long, and vary in mark allocations.
- Open response: Usually a few sentences or a very short paragraph for four marks.
- Extended open response: Where students are required to assess the ability to develop extended written arguments and to draw well-evidenced and informed conclusions about geographical questions and issues. These questions will always be worth either 8 marks or 12 marks and utilise a levels-based mark scheme.

Questions will ramp in demand so that question parts that require higher-order thinking skills and are worth the highest marks are used at the end of each question.

Our command words are defined in our specifications and will remain the same for the lifetime of the specification, see page references:

[Edexcel GCSE \(9-1\) Geography A](#) – page 43

[Edexcel GCSE \(9-1\) Geography B](#) – page 49

Questions will only ever use a single command word and command words are used consistently across our question types and mark tariffs. Please see page 19 of our [GCSE \(9-1\), AS and A level Geography assessments guide](#), which shows how our command words are linked to mark tariffs. The command word 'examine' will only be used in specification A for the 8 mark **extended open response questions** and 'assess' and 'evaluate' will be used in both specifications for the 8 mark extended open response questions.

Short Open Response Questions

Example 1 – GCSE A, Paper 2, Question 1 c (i) & (iv)

- 1 The causes and effects of urbanisation can vary between countries at different levels of development.

(c) Study Figure 1b in the Resource Booklet.



(Source: Image31454230 /kodachrome25/ Istock)

Figure 1b

Evidence for deindustrialisation

- (i) Identify two pieces of evidence that show this area has experienced deindustrialisation.

(2)

- (iv) Using just the photograph in Figure 1b to investigate deindustrialisation would be limiting.

Give **three** changes that could be made to this investigation that would help prove that other areas have been affected by deindustrialisation.

(3)

Mark schemes

Question number	Answer	Mark
1(c)(i)	<p>Award 1 mark for each of the following, up to a maximum of 2 marks:</p> <p>Overgrown vegetation (1)</p> <p>Broken windows/boarded up (1)</p> <p>Deserted/no industrial activity (1)</p> <p>Derelict (1)</p> <p>Neglected (1)</p> <p>Accept any other appropriate response</p>	(2)

Question number	Answer	Mark
1(c)(iv)	<p>Award 1 mark for each change, up to a maximum 3 marks:</p> <p>Using land use maps or satellite images (1)</p> <p>Using graphs of employment sector/unemployment (1)</p> <p>Using GIS (1)</p> <p>Accept any other appropriate response</p>	(3)

Student answers to part (i)

- (i) Identify two pieces of evidence that show this area has experienced deindustrialisation.

(2)

Evidence 1

In Figure 1b the building has overgrown vegetation
and smashed windows

Evidence 2

lost jobs

Examiner's comments

This response is awarded 2 marks.

The candidate has actually been awarded two marks for the sentence included in the 'Evidence 1' section, "...the building has overgrown vegetation (1) and smashed windows (1)".

Whilst it is expected that the candidate would write one valid point in each of the evidence sections, this 'two-in-one' approach is acceptable.

- (i) Identify two pieces of evidence that show this area has experienced deindustrialisation.

(2)

Evidence 1

The area is full of overgrown vegetation

Evidence 2

The building is derelict

Examiner's comments

This response is awarded 2 marks.

In the Evidence 1 section, the candidate has written, "... full of overgrown vegetation" (1) and in the Evidence 2 section, "...building is derelict" (1).

- (i) Identify two pieces of evidence that show this area has experienced deindustrialisation.

(2)

Evidence 1

There is overgrown vegetation around the building
~~There is overgrown vegetation around the building~~

Evidence 2

This leads to unemployment which is people losing their jobs due to factory or warehouses closing down.

Examiner's comments

This response is awarded 1 mark.

The candidate gets a mark for the first evidence box – overgrown vegetation (1) (but the crossed out text is not marked).

In the second evidence section, the candidate does provide a legitimate consequence of deindustrialisation, but as this is not clearly evident on the resource, does not gain credit.

Student answers to part (iv)

(iv) Using just the photograph in Figure 1b to investigate deindustrialisation would be limiting.

Give **three** changes that could be made to this investigation that would help prove that other areas have been affected by deindustrialisation.

(3)

A Change what could be made is use land-use maps so you can see which buildings are in use and which ones are not. As well as using services such as google earth to find out more about the places. You could also use graphs of employment and unemployment to see which areas are employing people more.

Examiner's comments

This response is awarded 3 marks.

The command word is 'give' which means that one mark is awarded for each change – and no further development is required.

The candidate is awarded their first mark for, "use land-use maps" (1), but no further credit for the description about how these could be used. The second mark is awarded for the reference to Google Earth (an example of GIS) (1) and the third mark for, "... could also use graphs of employment and unemployment" (1).

(iv) Using just the photograph in Figure 1b to investigate deindustrialisation would be limiting.

Give **three** changes that could be made to this investigation that would help prove that other areas have been affected by deindustrialisation.

(3)

To locate areas affected by deindustrialisation
you could use satellite images to locate
old, derelict buildings/factories which may have
closed down.

Examiner's comments

This response is awarded 1 mark.

The candidate has given 'use satellite images' (1), but no further mark is awarded for the development of this idea because the command is 'give'.

(iv) Using just the photograph in Figure 1b to investigate deindustrialisation would be limiting.

Give **three** changes that could be made to this investigation that would help prove that other areas have been affected by deindustrialisation.

(3)

- Instead of a photograph use land use maps or satellite images.
- Also ~~as~~ you can use GIS
- you could look at graphs from the employment or unemployment sector.

Examiner's comments

This response is awarded 3 marks.

This candidate has used bullet-points in their answer; this is fine for this type of response, but could possibly limit the SPaG marks available on the later, extended writing questions.

Calculate questions

Example 1 – GCSE A, Paper 2, Question 2a (iii)

2 The characteristics and reasons for development vary around the world.

(a) Study Figure 2a in the Resource Booklet.

Country	Gross Domestic Product (GDP) in U.S. dollars (billions)	
	2000	2014
Austria	0.2	0.4
China	1.2	10.4
India	0.5	2.0
Japan	4.7	4.8
Netherlands	0.4	0.9
Spain	0.6	1.4
USA	10.3	17.4

Figure 2a

Changes in Gross Domestic Product (GDP) for selected countries, 2000–2014

(iii) Calculate the mean GDP for the countries on Figure 2a in 2014.

Answer to one decimal place.

Show your workings in the space below.

[2]

Mark scheme

Question number	Answer	Mark
2(a)(iii)	<p>Working to show:</p> <p>The correct addition of total GDP (\$billions), 37.3 (1)</p> <p>The division of this number by 7, the total number of countries, arriving at a mean of 5.3 - or a number that rounds to 5.3 - US\$ billion (1)</p> <p>Maximum of 1 mark if no working out is shown.</p>	(2)

Student answers to part (iii)

(iii) Calculate the mean GDP for the countries on Figure 2a in 2014.

Answer to one decimal place.
Show your workings in the space below.

(2)

0.4
 10.4
 2.0
 4.8
 0.9
 1.4
 17.4

 37.5

$$37.3 \div 7 = 5.3285714286$$

5.3

US\$ billion

Examiner's comments

This response is awarded 2 marks.

The candidate is awarded the first mark for the correct addition of the total GDP (1), although there is no requirement to write out all of the data like this candidate has done.

The second mark is awarded for arriving at the correct answer, and being able to write this to one decimal place (1).

(iii) Calculate the mean GDP for the countries on Figure 2a in 2014.

Answer to one decimal place.

Show your workings in the space below.

(2)

$$\text{Total GDP} = \frac{37.5 \text{ million}}{7}$$

5.33

US\$ billion

Examiner's comments

This response is awarded 1 mark.

The candidate has correctly calculated the total GDP (1); however, despite dividing this by the correct number, is not awarded a second mark because they have failed to write the answer to one decimal place.

Open response 'explain' questions

Example 1 – GCSE A, Paper 1, Question 1 (c) (ii)

1 UK landscapes are constantly being changed by different processes.

(ii) Explain **one** way in which farming affects the landscape.

(2)

Mark scheme

Question number	Answer	Mark
1(c)(ii)	<p>Award 1 mark for farming activity and a further one mark for effect on the landscape, up to a maximum of 2 marks:</p> <p>Farming clears the natural surface vegetation/trees (1), which can result in a mono-culture and/or artificial landscape (1)</p> <p>Farming can plant the same crop over and over (1) which can give landscapes the same appearance (1)</p> <p>In some parts of the UK, farming has led to a loss of hedgerows (1) as farmers removed them to improve efficiency of farming (1)</p> <p>Farming has led to sheep in upland landscapes (1) which has created a deforested and grazed/grassy landscape (1)</p> <p>Accept any other appropriate response</p>	(2)

Student answers to 1 (c) (ii)

Farming affects the landscape as trees are cut down and the ground is dug up to provide space for crops and animals. It reduces the amount of animals in the area, and means that sometimes less native plants will grow. This affects the landscape as the land is taken by farming, and many of the trees are destroyed.

Examiner's comments

This response is awarded 2 marks. The candidate has identified a farming activity - cutting trees down (1) and has then explained why this affects the landscape - decline of plant species (1).

farming affects the landscape when farmers dig up land to plant crops and or when animals eat the grass and may which could affect the growth of the grass.

Examiner's comments

This response is awarded 1 mark. The candidate has identified a farming activity which affects the landscape - dig up land to plant crops (1) but has not developed this point by offering any explanation as to why this affects the landscape. The idea about 'eating the grass' is not worthy of credit.

Farmers plant crops. They also remove trees and other vegetation. In some areas they also graze sheep.

Examiner’s comments

This response is awarded 1 mark.

Although the candidate has identified three different activities, none of these points has been developed (**i.e. it is a ‘list’**). This means that they are awarded 1 mark for identifying a farming activity but do not get the second mark for explaining the impact on the landscape.

Example 2 – GCSE A, Paper 1, Question 2 (a) (iii)

(iii) Rip rap is an example of hard engineering.

Explain **one** way rip rap helps protect coastal landscapes.

(2)

Mark scheme

Question number	Answer	Mark
2(a)(iii)	<p>Award 1 mark for point about rip rap and a further one mark for how this protects coastal landscapes, up to a maximum of 2 marks:</p> <p>Large (manmade) boulders are placed along the cliff line (1) which protect the coast by acting as a sea wall (1)</p> <p>The gaps between the rocks allow water through (1), therefore slowly dissipating energy (1)</p> <p>Accept any other appropriate response</p>	(2)

Student answers to 2 (a) (iii)

Rip rap is when large rocks are placed in front of the cliff or coast. This absorbs the waves energy and stops the coast and cliff being eroded, protecting the coastal landscape. This is because the waves can't hit the coast with as much force.

Examiner's comments

This response is awarded 2 marks.

The candidate has made a point about the location of the rip rap (1) and has explained why this protects the coastline by absorbing wave energy (1). Although there is additional information about protecting the coastline the maximum marks have already been awarded.

One way that rip rap helps protect coastal landscapes is that rip rap is usually placed in front of the town/seawall, to prevent any erosion there. This is because the town would be flooded in there was no rip rap protecting it.

Examiner's comments

This response is awarded 1 mark.

The candidate has identified that rip rap is placed in front of the town/ sea wall (1 mark) but has not developed this point to explain why it protects the coastline.

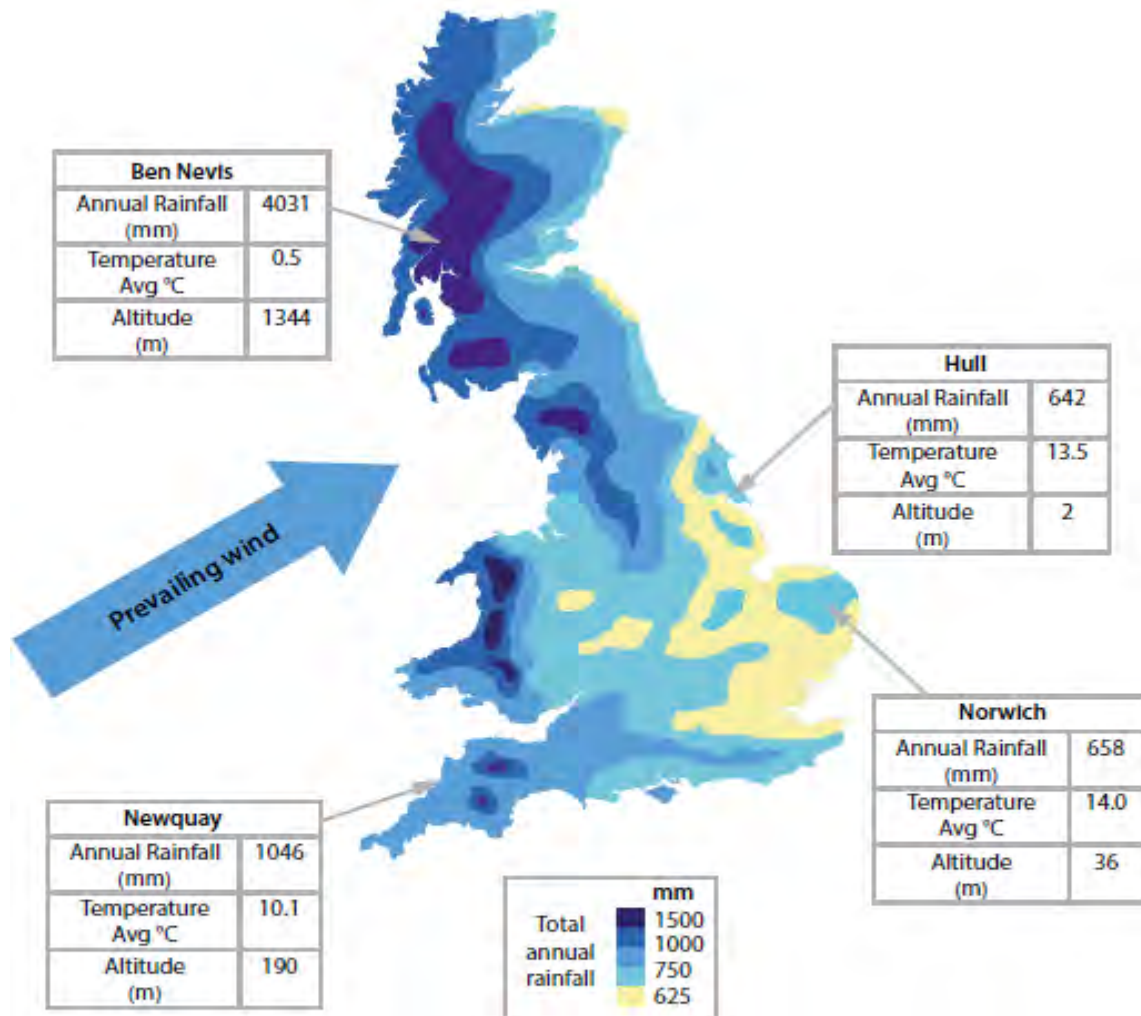
One way a rip rap helps to protect coastal landscapes is that it stops the sand move from one side of the beach to the opposite side.

Examiner's comments

This answer is not worth any marks. The candidate has confused rip rap with groynes and there is not any credit worthy material in the answer.

Example 3 – GCSE A, Paper 1, Question 5 (a) (iv)

5 The UK's climate experiences significant variations.



(Source: ARIC's Atmosphere, Climate & Environment Information Programme)

Figure 7

Map showing rainfall and other climatic variables for locations in the UK

(iv) The prevailing wind, which is shown in Figure 7, influences the climate of the UK.

Explain **one** way prevailing wind affects the climate of the UK.

(3)

Mark scheme

Question number	Answer	Mark
5(a)(iv)	<p>Award 1 mark for point about prevailing wind and a further one mark for each effect on the climate of the UK, up to a maximum of 3 marks.</p> <p>Map shows larger amounts of precipitation in the west (1) because the prevailing wind brings moist air from the south west (1), which rises over land and condenses (1).</p> <p>Map shows locations in the east have higher temperatures (1), which could be because they are not facing the prevailing wind (1) and therefore are sheltered by the higher altitudes in the west (1).</p> <p>Accept any other appropriate response</p>	(3)

Student answers to 5 (a) (iv)

The map shows that the prevailing wind in the UK blows from the south west. This means there is more rainfall in the west. This is because the wind picks up moisture as it passes over the sea. When it reaches the land the air rises and water vapour condenses and it rains.

Examiner’s comments

This response is awarded 3 marks.

The candidate makes the initial point that there is more rainfall in the west (1) followed by two linked points; the first about the wind picking up moisture over the sea (1) and further development linking the rising air/ condensation to higher rainfall (1).

Rainfall is highest in the west while temperature are lower. The prevailing wind is cooler in summer which means it is colder in the west.

Examiner's comments

This response is awarded 2 marks.

The candidate has identified two relevant points about the impact of **the prevailing wind on the UK's weather (rainfall and temperature)**.

However, only 1 mark is available for the basic impact so double credit cannot be given here. A second mark is given for the development point about temperature. This would need to be further developed to gain maximum marks.

The temperature is cold in Ben Nevis. It is really hilly.

Examiner's comments

This response is not creditworthy and has been awarded 0 marks.

While both points are lifted from the resource, the candidate has not made any links to the prevailing wind direction and not tried to explain why it is cold at this location.

Example 4 – GCSE A, Paper 1 Question 7 (d) (ii)

7 Biodiversity is influenced by the interrelationship and interaction of biotic and abiotic factors.

(ii) Explain two ways in which plants have adapted to living in a tropical rainforest.

Mark scheme

Question number	Answer	Mark
7(d)(ii)	<p>Award 1 mark for identification of the adaptation and a further one mark for an explanation of the adaptation, up to a maximum of 4 marks.</p> <p>Drip tips (1) to remove excess water in conditions of over 2000mm of precipitation (1).</p> <p>Buttress roots (1) to stabilise the trees as they increase in height (1).</p> <p>Waxy leaves (1) to stop water infiltrating into leaf and rotting it (1).</p> <p>Tall straight tree trunks (1) to grow straight up towards the light to out compete other species (1).</p> <p>Epiphytes sink roots into a host plant (1) so they do not need to sink roots to the ground (1).</p> <p>Accept any other appropriate response</p>	(4)

Student answers to part 7 (d) (ii)

1. Plants have adapted to living in the tropical rainforest by having drip tip leaves. These leaves help to remove water during periods of heavy rainfall.
2. The plants also have buttress roots. These help to stop the trees from falling over when they get really tall.

Examiner's comments

This response is awarded 4 marks.

The candidate has completed their answer using two separate points. Both points have clearly identified an adaptation (1) and a linked explanation (1).

1. The trees have waxy leaves and also have tall straight trees.
2. The trees have very long roots and the leaves have drip tips.

Examiner's comments

This response is awarded 2 marks.

Although the candidate has identified four adaptations in total, only 2 marks are available for this part of the answer. The candidate has not developed any of these points by offering an explanation about why the adaptation helps the plant survive in the rainforest, and so a maximum of two marks can be awarded (for a list).

1. The trees have really long roots. These help to absorb nutrients quickly from the soil which help the trees grow. In the rainforest the heavy rains mean that nutrients can be washed out of the soil really quickly and so having long roots can really help to avoid this taking place.
- 2.

Examiner's comments

This response is awarded 2 marks.

In section 1, the candidate has identified an adaptation, very long roots, which is worth 1 mark. The initial point is then followed by several linked points about this adaptation; however, only 1 further mark is available for the explanation linked to the stated adaptation as this is a 2+2 question. The second point has been left blank.

Example 5 – GCSE A, Paper 2, Question 4d

4 The development, production and consumption of different energy resources needs to be managed carefully.

(d) Explain **one** reason why non-renewable energy resources need to be managed.

Mark scheme

Question number	Answer	Mark
4(d)	<p>Award 1 mark for point about energy source and a further one mark for explanation of its effect, up to a maximum of 4 marks:</p> <p>non-renewable energy resources are finite (1), which means they will eventually run out (1) so alternatives in the form of renewables are needed that can be recycled/reused/replenished (1) over a shorter period of time (1)</p> <p>non-renewable energy resources emit carbon dioxide (1) which is a greenhouse gas (1) and causes global warming (1), which causes sea level rise/extremes in climate (1)</p> <p>Accept any other appropriate response</p>	(4)

Student answers to part 4d

Non-renewable energy resources need to be managed carefully because they will eventually run-out. Resources such as coal are bad for the environment because when burnt, they give off CO₂ - this is a green house gas that adds to problems of global warming.

Examiner's comments

This response is awarded 3 marks.

The question only requires one reason, but as it is worth 4 marks, a good degree of depth (rather than breadth) is needed.

The candidate actually covers two reasons: in the first sentence there is a potential 1 mark for saying that non-renewable energy resources will eventually run-out. However, the candidate goes on to make a separate point about giving off carbon dioxide when burnt (1) which is a greenhouse gas (1) which can add to the problems of global warming (1).

Non-renewable energy resources include oil, coal and natural gas. All of these are fossil fuels, and there is only a fixed amount of these on our planet. At the moment, we are using all of the for energy, but eventually all of them will run out because no more of them are being created.

Examiner's comments

This response is awarded 2 marks.

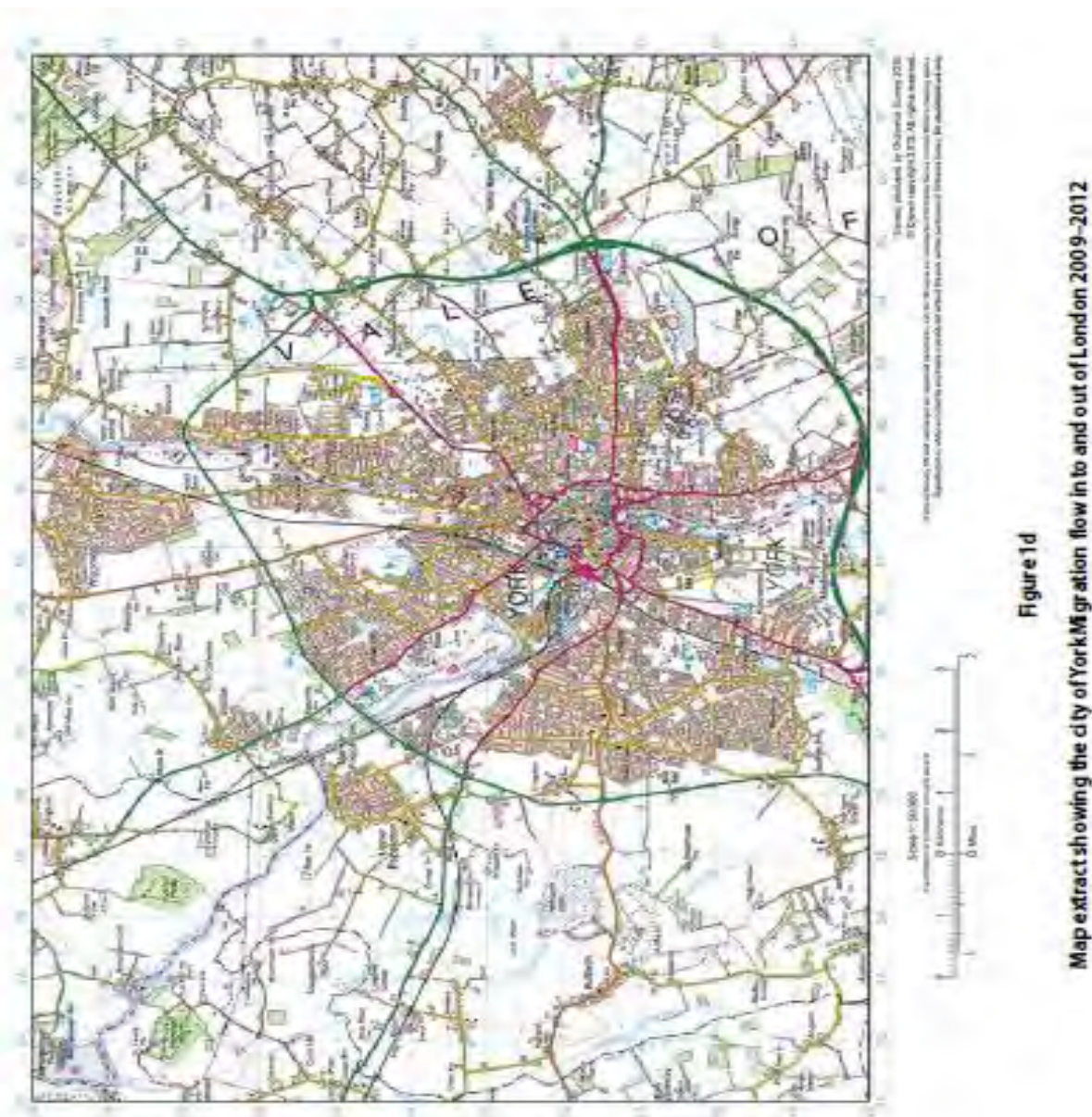
The candidate provides examples of non-renewable resources (for no credit), and then goes on to say that there is only a fixed amount of them **for 1 mark** ('finite' on the mark scheme) and that they will eventually run out for the second mark.

Open response 'suggest' questions

Example 1 – GCSE A, Paper 2, Question 1 (e) (iii)

- 1 The causes and effects of urbanisation can vary between countries at different levels of development.

Study Figure 1d, the Ordnance Survey (OS) map extract in the Resource Booklet.



(iii) Suburbanisation has taken place in many UK cities.

Woodthorpe is a suburb of York in grid square 5749.

Suggest **two** reasons why suburbanisation has taken place in this area.

(4)

Mark scheme

Question number	Answer	Mark
1(e)(iii)	<p>Award 1 mark for a point about suburbanisation and a further one mark for a development of this point, up to a maximum of 4 marks:</p> <p>Flat land (1), which is easy to build on (1)</p> <p>Near A/main roads (1), which provide good access to places (1)</p> <p>Located near the centre of York (1) so commuters do not have far to travel (1)</p> <p>Nature reserve/fields nearby (1), which provide a relaxing/quiet living environment (1)</p> <p>Accept any other appropriate response</p>	(4)

Student answers to part 1 (e) (iii)

(iii) Suburbanisation has taken place in many UK cities.

Woodthorpe is a suburb of York in grid square 5749.

Suggest **two** reasons why suburbanisation has taken place in this area.

(4)

1 In and around woodthorpe there is flat land which is easy to build on.

2 This flat land also provides space for main roads and railways which provide easy transport to places in the city.

Examiner's comments

This response is awarded 4 marks.

The command word is 'suggest' as candidates are required to apply their knowledge and understanding of this area of the specification, rather than having any prior learning about the area in the resource. Therefore, candidates can use information on the resource to help them with the question and/or apply their own knowledge and understanding about the reasons for suburbanisation to this question.

In this example, the candidate has provided two developed points:

- Flat land (1) which is easy to build on (1)
- Main roads and railways (1) which provide easy transport to places in the city (1).

(iii) Suburbanisation has taken place in many UK cities.

Woodthorpe is a suburb of York in grid square 5749.

Suggest **two** reasons why suburbanisation has taken place in this area.

(4)

1 ~~Area~~ Flat Land

2 Near roads

Examiner's comments

This response is awarded 2 marks.

The candidate has provided two legitimate reasons why suburbanisation has taken place in Woodthorpe, but has not developed either idea for any additional marks.

(iii) Suburbanisation has taken place in many UK cities.

Woodthorpe is a suburb of York in grid square 5749.

Suggest **two** reasons why suburbanisation has taken place in this area.

(4)

1 ~~the~~ The flat land which is easy to
build on.

2 The cost of housing ~~is~~ in the city is
more than on the outskirts.

Examiner's comments

This response is awarded 3 marks.

The candidate has written a developed point in the first section about flat land (2). In the second section, the candidate has provided a generalised statement – which could explain why suburbanisation has taken place at Woodthorpe (1), but this has not been developed further for the fourth mark.

Example 2 – GCSE A, Paper 2, Question 5b (iv)

5 The development, production and consumption of different water resources needs to be managed carefully.

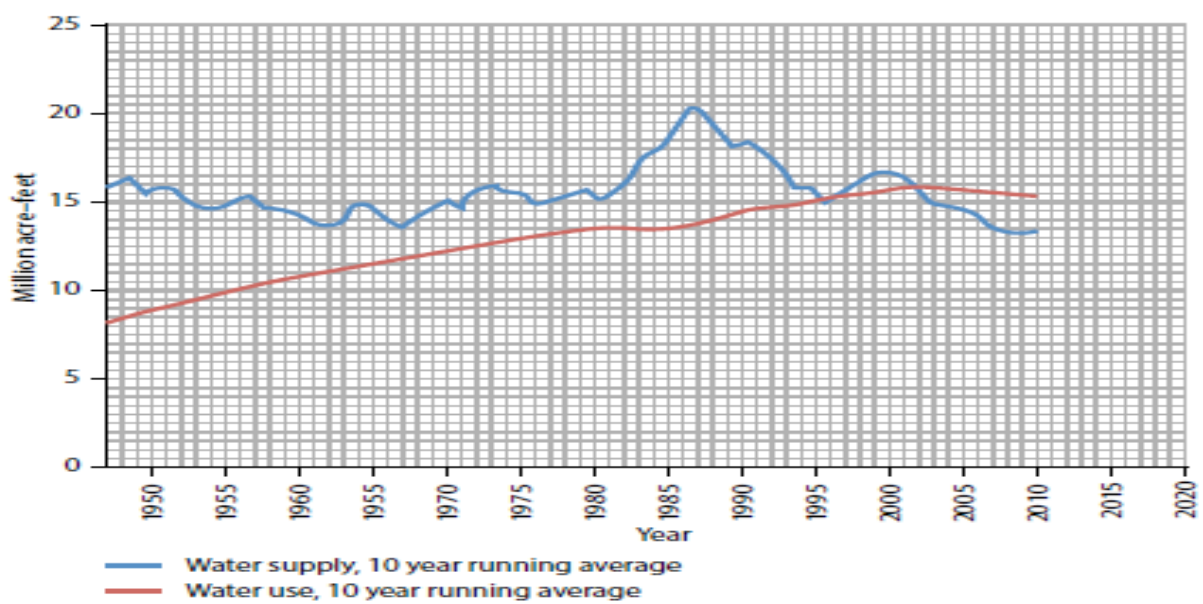


Figure 5
Water supply and water use in the Colorado River Basin, 1950–2010

(iv) Suggest **one** reason for the changes in water supply between 1950 and 2010 on Figure 5.

(2)

Mark scheme

Question number	Answer	Mark
5(b)(iv)	<p>Award 1 mark for suggesting one reason, and a further 1 mark for an appropriate extension, up to a maximum 2 marks:</p> <p>between 1950 and 1980, the area received a similar amount of rainfall (1) so the water supply did not change very much during that period (1)</p> <p>the Government might have been trying to conserve water since 1988 (1) which has led to a fall in water supply (1)</p> <p>water transport systems / pipes may be leaking and in need of repair (1), which is why water supply has been falling in the last 20 years (1)</p> <p>increased amount of rainfall / wetter seasons (1) increased the water supply during the early-mid 1980s (1).</p> <p>Accept any other appropriate response</p>	(2)

Student answers to part 5b (iv)

Water supply might have changed because the amount of rainfall entering drainage basins have changed because some years it seems to be wetter than others.

Examiner's comments

This response is awarded 1 mark.

Question is 'suggest one reason...', therefore application of knowledge and understanding is being assessed here – and a developed point is required for full marks.

The candidate has made a valid point about differing levels of rainfall from year to year (1) but this has not been developed for the second mark, for example by linking this to a decrease in the availability of water for supply.

one reason why water supply levels have changed between 1950 and 2010 is that the government has changed its policies on water supply. For example, since the late 1980's, the government might have wanted to conserve water supplies, which is a possible reason why water supply levels have fallen since this date.

Examiner's comments

This response is awarded 2 marks.

The candidate has suggested that changes in government policy may have affected the water supply levels (1) and has developed **this point by focusing on one part of the graph (late 1980's)** when there was a decrease in water supply (1).

8 mark extended open response questions using 'assess', 'evaluate' and 'examine'

Example 1 – GCSE B, Paper 1, Question 2 (f)

- (f) 'The causes of past climate change and current global warming are different'.
Assess this statement.

(8)

Mark scheme

Level	Mark	Descriptor
	0	<ul style="list-style-type: none"> No acceptable response
Level 1	1-3	<ul style="list-style-type: none"> Demonstrates isolated elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) 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 are supported by limited evidence. (AO3)
Level 2	4-6	<ul style="list-style-type: none"> Demonstrates elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) 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)
Level 3	7-8	<ul style="list-style-type: none"> Demonstrates accurate understanding of concepts and the interrelationship of places, environments and processes. (AO2) 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)

Indicative content

Question	Indicative content
1(f)	<p style="text-align: center;">AO2 (4 marks)/AO3 (4 marks)</p> <p>Expect different natural causes (volcanic eruptions, asteroid strikes, solar variations, orbital geometry) to be identified with comments on their respective timescales.</p> <p>AO2 (4 marks)</p> <ul style="list-style-type: none"> • Global warming is caused by rising of greenhouse gases (human activities; burning fossil fuels, deforestation). • Details of enhanced greenhouse effect; greenhouse gases (CO₂, methane), incoming and outgoing radiation. • Causes of global warming, e.g. human activities and their gases. • Volcanic eruptions causing climate cooling, e.g. ash and gases blocking incoming solar radiation. • Sun spot activity causes both warming and cooling, details of 11-year sun spot cycle and longer trends. • Orbital changes have different elements – shape of orbit, axial tilt, 'wobble' on axis – all operating together, on very long timescales (major cycle is 100,000 years). <p>AO3 (4 marks).</p> <ul style="list-style-type: none"> • Natural vs human causes, e.g. past natural causes were not manageable, whereas current human causes are theoretically manageable. • Judgement about differences in causes, e.g. natural in the past and the addition of human in the present. • Recognition of similarities and continuation of natural causes in the present day. • Significance of CO₂ in causing global warming and as measured in ice cores linked to past climate change. • Judgement about timescale differences, e.g. limited significance of volcanic eruptions and sun spot variation versus long-term orbital changes and present atmospheric composition changes. • Impacts from volcanic events can be short term but occur frequently; the cooling is minor (less than 1°C/a year or two) but may be compared to large-scale events (e.g. supervolcano eruptions) triggering 'nuclear winters' (also true of asteroid collisions). • Orbital changes, although slow, are the main factor behind glacial/interglacial cycles – so they could be seen as the most significant in terms of magnitude and continue into the present day. • Possibility of mechanisms operating in conjunction with one another and/or in opposing directions.

Student response to part 1 (f)

(f) 'The causes of past climate change and current global warming are different.'
Assess this statement.

(5)

In a way the statement is true as in ~~the past~~ ^{before the industrial revolution} the past causes of climate change may have been due to natural causes such as changes in volcanic activity which may have expelled various gases which had changed the earth's air composition, or it may have been due to ~~various~~ solar output and other natural external factors. Whereas today, the causes of climate change are based on human activity. For instance the increasing number of fossil fuels burnt for growing energy demands, has led to the expulsion of greenhouse gases such as sulphur dioxide and carbon dioxide which cause global warming thus changing the climate as ^{global} temperatures began to rise.

Examiner's comments

This response is awarded 5 marks

Logical connections between concepts throughout (AO3). Addresses the question, mentions the past and the influence that past actions have had (Industrial revolution etc.). There is some evidence of the impacts of past events. AO2 needs more emphasis on inter-relationships between processes and environment.

To reach the next level, the student needs to acknowledge that climate change is still occurring and demonstrate more accurate understanding of concepts and their inter-relationship.

Example 2 – GCSE B, Paper 1, Question 2 (f)

***f) For a named emerging country, assess how far economic growth has had a positive impact on its population.**

(12)

Indicative content

Question number	Indicative content
2*(f)	<p style="text-align: center;">A02 (4 marks)/A03 (4 marks)</p> <p>A02</p> <ul style="list-style-type: none"> • Rapid economic change will involve both changes to the structure of the economy and changes to its regional geography, as well as a growing GDP. • Rural-urban migration is a consequence of the changing structure of the economy. • There are significant changes to the population data as a consequence of these changes being unevenly spread across society. • In many emerging economies there have been rising inequalities of income. • Impacts will be both positive and negative, with some groups benefiting both economically and socially but others not, especially the urban poor and landless rural populations. • Environmental impacts also affect human health unevenly. <p>A03</p> <ul style="list-style-type: none"> • In many emerging societies a powerful elite run the country and have profited from its development and from their relationship with both foreign governments and foreign TNCs. • Improvements in infrastructure and higher government spending have improved levels of health and education for this group and an emerging middle class, often in the major cities. • There are clearly rural groups who are not currently benefiting from rapid economic change because they lose their land as agriculture becomes more commercial. • Urban economies provide only a limited number of relatively well-paid industrial jobs so many new city dwellers are forced into the informal economy. • As a result, high rates of mortality are common in both squatter settlements and shanty towns, and in rural communities. • Long-term development might lead to the increased growth of a middle class with benefits spreading more widely as a consequence.

Mark scheme

Level	Mark	Descriptor
	0	No acceptable response
Level 1	1-3	<ul style="list-style-type: none"> • Demonstrates isolated elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) • 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 are supported by limited evidence. (AO3)
Level 2	4-6	<ul style="list-style-type: none"> • Demonstrates elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) • 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)
Level 3	7-8	<ul style="list-style-type: none"> • Demonstrates accurate understanding of concepts and the interrelationship of places, environments and processes. (AO2) • 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)

Student response to part 2 (f)

*f) For a named emerging country, assess how far economic growth has had a positive impact on its population.

(12)

An example of an emerging country is China, and has rapidly developed over the years. For instance, Special Economic Zones in China, especially Shenzhen has led to economic growth as these areas have low tax, which attract foreign direct investment and FDI multinational corporations, which would then lead to China getting more profit. ~~However, the influx of FDI~~ This would have a positive impact on the population as the country's economy would increase and the GNI per capita would be greater. Furthermore, a more wealthier economy could lead to further economic growth as well as development in hospitals and schools. Better education systems supported by the growth would lead to an increase in literacy rate as well as school life expectancy, and moreover would give children more advanced skills which offer them a wider opportunities in the future, which is sustainable as the younger generation would be better skilled and work for the tertiary industries in China instead of lower payed jobs such as factories. ~~For~~ In addition, the influx of FDI's and other companies could lead to more people getting jobs, thus reducing unemployment rates and again boosts the economy as money made by the workers would be then spent within the country or through tax, and this money would again be spent on developing the country. ~~From~~ Economic growth from this may also lead to ~~the~~ improving the infrastructure or transport around China, and this would positively affect people as journeys would be much less congested,

improving infrastructure

more efficient and quicker, and ^{it} would reduce stress levels of the people and increase connectivity (high rail, fibre opt). This leading to ~~see~~ a better standard of living which is an important social factor. However, economic growth to an extent may also have negative such as global warming. ~~prospect~~ The increasing demand for energy is such that the population would be very high so the country would have to rely on fossil fuels, however this leads to the release of greenhouse gases, consequently global warming. Moreover, the growing amount of factories may mean that there will be high ^{poll} and this may lead to concerns of nuclear power also in the country, prohibition of nuclear and lack of safety standards which would increase the number of ~~it may be harmful/unsafe~~ ^{risks} (Total for Question 2 = 34 marks)

Examiner's comments

The response is awarded 8 marks and 4 marks for SPAG.

Lots of impacts on the population. Identifies China and gives examples. Covered a wide range of different impacts, some of the linkages are not developed as well as they could be. Some elements are more generic, though the last part of the response brings it back to China. Good analysis and evidence used.

Example 3 – GCSE A, Paper 2, Question 1 (g)

(g) You have studied a major UK city and a major city in a developing or emerging country.

Evaluate which of these cities have been most successful in improving the quality of life for its people.

(8)

Mark scheme

Level	Mark	Descriptor
	0	No acceptable response.
Level 1	1-3	<ul style="list-style-type: none"> • Demonstrates isolated elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) • 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)
Level 2	4-6	<ul style="list-style-type: none"> • Demonstrates elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) • 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)
Level 3	7-8	<ul style="list-style-type: none"> • Demonstrates accurate understanding of concepts and the interrelationship of places, environments and processes. (AO2) • 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)

Indicative content

<p>1(g)</p>	<p style="text-align: center;">A02 (4 marks)/A03 (4 marks)</p> <p>A02</p> <ul style="list-style-type: none"> • Quality of life is a combination of different factors such as health, sanitation, education, employment, wealth, access to clean drinking water. • Major cities in developing/emerging countries are faced with a number of challenges that affect quality of life; in particular, the need to develop infrastructure and services such as water, sewage, drainage and waste collection. • Environmental issues such as increased air pollution due to a growing number of car users and/or industries, affect the quality of life in major cities and require careful management. • Social and economic issues such as the spread of disease, crime, unemployment and education need to be managed. • The UK and developing/emerging countries manage the economic, environmental and social issues in different ways. • In major cities in the UK, strategies to improve the quality of life may include waste management (e.g. recycling), developing job opportunities, increasing the quality and quantity of schools, improving healthcare and welfare provision, the development of integrated transport systems and increasing the supply of affordable and energy-efficient housing. • In major cities in developing/emerging countries, bottom-up (e.g. site and service schemes and self-help schemes) and top-down approaches (e.g. government policies and investment in improving transport, education and waste disposal) have been taken to improve the quality of life. <p>A03</p> <p>Evaluation will depend on the specific case studies, but may include:</p> <ul style="list-style-type: none"> • The quality of life in some areas of major cities is low and the reasons for this vary – and these reasons are a combination of social, economic, environmental and political factors. • The type of strategy(s) relative impact of an approach used to improve the quality of life vary and are influenced by factors such as the level of development of a country, national government policy and international relations with other countries. Some countries have greater economic power and influence to prioritise urban improvements. • Approaches to improving the quality of life vary in their effectiveness, e.g. a strategy may target only a particular area or is dependent on a reliable supply of funding. • The advantage of some approaches is the consequential effect on other aspects of quality of life, e.g. by improving access to clean
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	<p>drinking water the spread of disease is limited, residents experience better health and are able to go out to work.</p> <ul style="list-style-type: none"> In some cities, there are barriers preventing approaches being successful, such as a lack of funding, rapidly-growing populations and the legacy of deindustrialisation.
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Student responses to part 1 (g)

Sao Paulo is a city in Brazil, an emerging country. There have been a range of strategies used to improve the quality of life. A top down project has been the Chingapura Housing Project which involved the building of about 100000 new homes, improving conditions in favelas. However, only 14000 were built in the end and there was a lack of community spirit as residents were living in 10-storey high rise tower blocks. Another scheme was the self-help scheme in Santo Andre where favelas were not knocked down, but upgraded with better health, education and recreational facilities. This is better than the top-down project as it retained community spirit and included locals in the decision-making process; however, with so many people several strategies were introduced. Bristol Council set up a website called walkit.com which had lots of maps to encourage walking rather than using cars - which would lower CO₂ emissions. Also, Car hubs and 2+ only lanes have been set up in Bristol to encourage car sharing and therefore reduce CO₂ emissions. Overall, both of these schemes have been fairly successful, but there is always

(Total for Question 1 = 30 marks)

going to be people who drive on their own to work as it is more convenient.

TOTAL FOR SECTION A = 30 MARKS

Examiner's comments

This response is awarded 8 marks.

The candidate has demonstrated an accurate understanding of the attempts to improve the quality of life in a major UK city (Bristol) and a major city in a developing/emerging country (Sao Paulo). This is done by considering a range of strategies and how they are designed to improve the quality of life for the residents of both cities. There is good use of supporting detail (e.g. facts and figures) and logical connections are made between what the strategy is and how it is going to improve the quality of life.

The command word **here is 'evaluate', which means that the** candidate needs to show degree of reflection – for example in terms of the effectiveness of the strategies that have been used. In this response, the candidate opts to provide judgements throughout the answer, rather than one final statement – which is absolutely fine.

In Birmingham, the council has invested heavily in energy-efficient homes e.g. Balsall Heath area of the city. Also, several new schools have been built and new jobs have been created in the Grand Central development - making the quality of life better as they will now have more disposable income. Another strategy to use sustainable development was the opening of the Sparkbrook community centre which has 3 doctors, serving 15000 people + a library - this improves the health + education of locals. Finally, the development of bus lanes, electric vehicles (as part of the CABLED project) + car share schemes have been used to reduce the amount of cars and therefore air pollution (CO₂ emissions). This also is good for the health of the locals.

In Mexico City, there has been bottom-up strategies in Neza where some migrants raised money to build schools + health centres to improve health + education for locals + has also reduced crime.

Air pollution and waste are major problems in Mexico City and the government has a 15-year Green Plan which includes developing the eco-friendly Metrobus and voucher schemes to incentivise recycling to reduce waste + air pollution from cars.

Overall, both cities have been successful in improving the quality of life for its people - but I think that in places

(Total for Question 1 = 30 marks)

TOTAL FOR SECTION A = 30 MARKS

like Mexico City, bottom-up projects are more important because the governments don't have as much money.

Examiner's comments

This response is awarded 7 marks.

This response is Level 3 because the candidate shows an accurate understanding of the question and is able to demonstrate a strong knowledge and understanding about different strategies used in Birmingham and Mexico City. Another characteristic of this Level 3 response is the logical connections that are made throughout: the candidate is able to include specific locational information about strategies, and links this with how the strategy may improve the quality of life.

This candidate has opted to write their evaluation at the end of their answer – which is fine, but equally acceptable is the on-going evaluation shown in exemplar 1.

Overall, it was judged that this response lacked the balanced argument required for top of band, and therefore was awarded 7 marks.

Example 4, GCSE A, Paper 1 question 2 (a) (iv)

(iv) Study Figure 2.

Examine how physical processes work together in the formation of the spit shown in Figure 2.

(8)

Indicative content

Question number	Indicative content
2(a)(iv)	<p style="text-align: center;">A03 (4 marks)/A04 (4 marks)</p> <p>A03</p> <ul style="list-style-type: none"> • Wave direction is determined by the prevailing wind resulting in the wash proceeds up the beach at an angle to the coast. • Sediment is moved along the coast. The swash pushes sediment up the beach, its direction determined by the prevailing wind. The back wash causes material to move back down the beach at right angles to the coast. • The swash/back wash process produces a zig zag movement of sediment along the coast. Over time, large amounts of material can be transported along the beach. • Where the coast changes direction, material is deposited offshore. Over time, there is a buildup of material off the coast – this forms a spit. Long-shore drift is a dominant process in maintenance of the spit. • Once material moves to the east of the headland, there is a lower energy environment, allowing deposition to occur, which encourages the deposition of fine materials resulting in the creation of mudflats/a salt marsh area. • Over time, the spit can develop a hook/become recurved and its shape is influenced by both river currents/tidal movement and localised wind in the estuary mouth. • The estuary is important in the diagram as it limits the growth of the spit due to the deep water and the currents. • Transportation occurs until a change in direction of the coastline. <p>A04</p> <ul style="list-style-type: none"> • The prevailing wind is south-westerly. • The long shore drift is moving west to east. • There is evidence of a narrow strip of beach/sand in front of the mainland (before the headland). • There is fast water flowing out of the river mouth in a north south direction. • The landform is a recurved spit, which curves towards the north/mouth of river estuary. • Behind the spit there is a build-up of sediment forming a salt marsh area.

Mark scheme

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) Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (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) Uses geographical skills to obtain accurate information that supports some aspects of the argument. (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) Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)

Student responses to part 2 (a) (iv)

(8)

Processes
 there are many physical processes working together to form the spit shown in figure 2. longshore drift is one of them. longshore drift ~~is a~~ ^{moves} sediment along a beach through erosion and transportation in the waves, swash carries the sediment up the beach

at a 45° angle, and back wash push the sediment back down at a 90° angle. This is caused by the wind from the south-west direction shown in figure 2. The results in the sediment being transported from West to east. The coast then changes direction and the sediment is deposited at the end of the beach. This is repeated until the spit is bigger, but it cannot grow across an estuary because of the fast flowing water flowing from North to South, shown in the diagram. The area (Total for Question 2 = 12 marks) behind the spit is protected from erosion and transportation, so then it develops a salt marsh from deposition.

Examiner's comments

This response is awarded worth 8 marks. This response reaches the top of Level 3 because the candidate has focused on the command word 'examine' and has both described and explained the physical processes which work together to form a spit. A range of information has been used from the resource including:

- direction of the prevailing wind
- direction of sediment movement
- change in direction of the coastline
- fast flowing river (from north to south)

This information has been used to support the explanation of physical process and to help provide a balanced account which synthesises relevant understanding of process.

It should be noted that the candidate has not used all the evidence from the resource (e.g. scale, re-curved end) – the key in this question is for the candidate to selectively use the evidence to help explain the role of physical processes in the formation of the landform.

It is important to note that as the command word is 'examine', ongoing judgements or a final conclusion are not required.

Many different physical processes work together to form the spit in figure 2. The main process involved is longshore drift, which works through erosion and transportation. Sediments are washed up the beach by swash at a 45° angle, and then moved back down by the backwash at a 90° angle. The prevailing wind in figure 2 is ^{coming} blowing at a south westerly direction, which moves sediments west to East.

When the sediments ^{are deposited at} reach the end of the beach they build up at the headland shown in figure 2, which causes it to stretch out to sea. This is called a spit. The fastest flow of the river prevents the spit reaching the other side of the coast. As the area behind the spit is protected from erosion and transportation, it forms a salt marsh.

In conclusion, longshore drift is the main process involved, but this could not work without some erosion and transportation.

Examiner's comments

This response is awarded 7 marks. As in the previous example, the candidate has reached Level 3 because they have met the demands of the **command word 'examine' in their answer**; again, this requires the candidate to combine their geographical knowledge and understanding with the scenario presented by the resource. In this response, a range of information from the resource has been used, including:

- direction of prevailing wind
- **'sediment building up at the headland'**
- fast flowing river
- protection of the salt marsh by the spit

As with the 8 mark response above, this candidate has not used all the evidence from the resource and it is important again to note that the key is how the information is used rather than just listing evidence from the resource.

This candidate has also made links between physical processes and has, overall, written a balanced, well-developed account. However, this response does not get to the top of Level 3 because some of the links between the evidence from the resource and the physical processes at work are not as clearly stated as in the 8 mark response above. For instance, while this candidate does identify the role of swash and backwash in moving sediments along the beach and then goes on to write about the prevailing wind (end of the first paragraph) the link between these two elements is not made. It is important to note that **as the command word is 'examine'**, ongoing judgements or a final conclusion are not required.

There are many processes that work together to form a spit (shown in figure 2)
 Long shore drift is the main process at work to form a spit.
 Longshore drift works to move sand along a beach by erosion and transportation. Swash moves the sediment along the beach in a 45° ~~degree~~ angle and then backwash pulls the sediment down the beach at a 90° angle. These angles are caused by prevailing winds in the waves going in a South-westerly direction. This created a zig-zag movement along the beach going from east to west.

When the spit changes direction (shown in figure 2 by the ~~estuary~~ estuary) The ~~sea~~ ^{river} deposits its sediment into the sea at the end of a beach. This happens time and time again to make the spit bigger. It can't carry on across the estuary as there is fast flowing water from the sea in a north to south direction. ~~Because of the~~ Behind the spit is protected ~~therefore~~ there from erosion and transportation, therefore there is slow calm water behind the spit allowing a salt marsh to form (shown in figure 2)

Overall longshore drift is the main (Total for Question 2 = 12 marks)

© P Process however a spit couldn't form without the erosion, deposition and transportation therefore they have to work together

Examiner's comments

This response is awarded 5 marks. This response is Level 2 because there is some evidence from the resource, but the links between this evidence and the role of physical processes is not always clearly stated. The range of evidence used is also more limited than in the previous two responses. In this case the following information from the resource has been referred to:

- Prevailing wind direction
- Fast flowing water from the sea in a north to south direction
- Salt marsh forming behind the spit

It should also be noted that some of the information provided (e.g. **movement of sediment 'from east to west' and the 'fast flowing water from the sea'** is either incorrect or poorly expressed). However, the candidate has used some evidence and has obtained some accurate information from the resource. This has been used to help explain the formation of the spit and there is some accurate physical process. The inaccuracies in some of the information have meant that the response has been assessed as a mid-level 2 answer. If the information used had been more accurate it would then have been a top level 2 answer.

Many different physical processes work together to form a spit. The movement of sediment is along the beach because the swash takes the material up the beach at a 45° angle and then gravity takes it back down the beach at a 90° angle. This is caused by the direction of the prevailing wind. The process is called Longshore drift.

Longshore drift moves the sediment along the beach until a headland. The sediment then continues to be moved out to sea and builds up a spit. The spit does not continue across an estuary because its end is removed by a river.

Examiner's comments

This response is awarded 4 marks. Although the candidate has explained the role of longshore drift in the formation of a spit – and has made links to prevailing wind direction – the answer could have been completed without the aid of the diagram. In this case, all the marks have been awarded for the AO3 component and no marks have been awarded for AO4. Both aspects of the mark scheme (AO3 and AO4) need to be addressed at least in part to be gain entry into Level 2.

Example 5 GCSE A, Paper 1, Question 7 (d) (iv)

*(iv) Assess the following statement.

Climate change presents a greater threat to tropical rainforests than it does to deciduous woodlands.

Indicative content

Question number	Indicative content
7(d)(iv)	A02 (4 marks)/A03 (4 marks)
	<p>A02</p> <ul style="list-style-type: none"> • Climate change will have an impact on soil, temperature, rainfall, and weather events, which could threaten tropical rainforests' and deciduous woodlands' structure, function and biodiversity. • Tropical rainforest structure will be threatened by rising sea levels caused by climate change. • Tropical rainforest biodiversity could be threatened by animals migrating because they cannot adapt to the changing climate of their current habitat. • Deciduous woodland structure could be threatened by nutrient and moisture depletion in soils, leading to reduced tree growth. • Deciduous woodland biodiversity could be threatened, as increased numbers of pests are introduced into ecosystems through migration. <p>A03</p> <ul style="list-style-type: none"> • Threats to tropical rainforests and deciduous woodlands are naturally similar, since climate change may bring an increase in temperature and a decrease in moisture, which will have common effects on vastly different ecosystems. • Attempts to mitigate against climate change threats, for example through sustainable management, can vary significantly for tropical rainforests and deciduous woodlands (judgements will depend on case studies). • A specific ecosystem's natural ability to adapt to climate change can vary, which means impacts of climate change will be 'threats' only to ecosystems that cannot adapt. • Climate change will not have the same impact everywhere (e.g. some areas may get colder/wetter rather than hotter), so the degree of threat is dependent on the impacts in the given area.

Mark scheme

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> • Demonstrates isolated elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) • 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 are supported by limited evidence. (AO3)
Level 2	4-6	<ul style="list-style-type: none"> • Demonstrates elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) • 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)
Level 3	7-8	<ul style="list-style-type: none"> • Demonstrates accurate understanding of concepts and the interrelationship of places, environments and processes. (AO2) • 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)

Student answers to part 7 (d) (iv)

Tropical rainforests and deciduous woodlands are both likely to be damaged by global warming.

As the Earth gets hotter this may lead to some of the plants in tropical rainforests dying. As it gets warmer it may also get drier. Trees and plants which are adapted to the warm, wet conditions will die out. This may also cause animals which live in them to die as well.

In deciduous woodland areas the trees and plants also rely on the climate. If they get hotter it may also get drier here too. This may cause more droughts which will put stress on trees and kill them. If winter get warmer then pests and diseases may not be killed and this may also cause plants and animals to die. I think that the plants in deciduous woodlands are likely to be damaged by global warming but probably not as much as the tropical rainforest ones. This is because the rainforests have been there for a very long time and the plants won't be able to adapt to the changes fast enough. The trees in the deciduous woodland may be able to move north and survive.

Examiner's comments

This response has been awarded 7 marks in total.

5 marks have been awarded for the AO2 and AO3 parts. The candidate has written a reasonably balanced approach which addresses both ecosystems. The answer does demonstrate understanding of some of the key concepts and connections between cause and effect. There have been attempts to make judgements, particularly at the end of the second paragraph.

2 marks have been awarded for SPGST. The spelling and punctuation is usually accurate although there are some mistakes. The grammar is of a reasonable standard and errors do not affect the overall meaning. The candidate has used some specialist terms.

Global warming is a real threat to people and is likely to cause lots of people to be killed and animals to be wiped out. It is being caused by the release of Carbon Dioxide into the air by cars and aeroplanes. The heat from the sun is being trapped by the ozone layer which is getting thicker and the earth is getting hotter.

I think that this will mean that lots of tress will die and be wiped out in places like brazil. This is because it is really hot and wet here and if gets hotter the plants won't be able to live. This will also happed in deciduous woodlands where the leaves will fall off the trees when it gets hotter.

Examiner's comments

This response has been awarded 3 marks in total. 2 marks have been awarded for the AO2 and AO3 parts.

Although the candidate has tried to address the impacts of global warming on both tropical rainforests and deciduous woodlands, the depth of explanation is limited. The main reference is to the idea that trees will die because of the hotter climate. While some attempts have been made to deconstruct information, the level of understanding and connections between points is limited.

The first paragraph on the causes of global warming is irrelevant to the question and should not be credited.

1 mark has been awarded for SPGST. The spelling and punctuation is usually accurate although there are some mistakes. The grammar is of a reasonable standard and errors do not affect the overall meaning. The candidate has used some specialist terms.

Many scientists believe that the Earth is getting warmer. This process is called global warming and it may threaten many ecosystems around the world. Two of the ecosystems which may be threatened are tropical rainforests and deciduous woodlands.

The tropical rainforests are located 5-10° north and south of the Equator. They have been located here for many millions of years and are very vulnerable to change because of the nature of their nutrient cycling. While it appears like there are lots of nutrients available, in fact there are relatively small amounts. The plants are able to grow so large and support such a wide varieties of species of plants and animals because the ideal growing conditions of hot temperatures and lots of rainfall mean that plants are able to photosynthesis. When they die organic matter is rapidly decomposed and absorbed by the plants through their long roots.

The tropical rainforest ecosystem is very vulnerable because it is so reliant on the hot, wet climate for its nutrient cycling. If the climate becomes hotter and possibly drier this will mean that the type of vegetation may change. It could start to be replaced by species which are more suited to a drier climate like those found in the tropical grassland areas. If the species of plants change then the animal life which rely on them may also change. The plants in tropical rainforest areas will not be able to adapt to the changing climate quickly enough and may die out. For example, in drier tropical grassland areas the plants tend to drop their leaves in the dry season.

If the drier conditions lead to less vegetation cover in tropical rainforests this may also mean that the soil is less protected from heavy rain when it does occur. This may lead to the soil being washed away and nutrients lost. This could also silt up rivers and harm freshwater fish species.

The deciduous forest is also threatened by the change to global climate. If the temperate areas (40-60° north and south of the Equator) become milder in winter then key processes such as seed germination triggered by cold temperatures may not happen. Pests and diseases which are normally killed off in cold winters may also survive harming plant and animal species. There may also be an increased risk of drought if the climate becomes warmer which may mean that tree species such as oak and beech may be killed by stress.

While tree species in deciduous woodlands may be able to migrate north they may not be able to do this quickly enough. This could lead to species becoming extinct. There may also be a greater risk of fire as the climate becomes drier which could lead to more forest fires. These may also damage plant species.

It is difficult to conclude about whether the threat is greater to tropical rainforests than to deciduous woodland. This is because the rate and scale of change in the future is still unknown. It is also difficult to predict because climate change may not have the same effect everywhere and some areas may actually get colder/ wetter rather than hotter. However, I think that the tropical rainforests are more threatened because their nutrient cycling is so closely linked to the climate and their conditions have not changed for millions of years.

Examiner's comments

This response has been awarded 12 marks in total. 8 marks have been awarded for the AO2 and AO3 parts.

The answer is well structured and focuses on both tropical rainforest and deciduous woodlands. The description and explanation of the possible impacts of global warming on both areas are clear with an accurate understanding of concepts. The answer shows logical connections between the key ideas and concepts and is well-balanced between the two ecosystems.

Judgements have been made both through the main body of the text (e.g. the likelihood of a negative impact) and also in the final **paragraph. It should be noted that 'assess' as a command word** does not require a formal conclusion. However, the final paragraph in this answer is focused on making judgements.

4 marks have been awarded for SPGST. The answer is accurate spelling and grammar throughout. There is a wide range of specialist terms used.

Example 6, GCSE A, Paper 2, Question 2 (f)

(f) Assess the social and economic impacts of private investment by TNCs in a named developing/emerging country.

Indicative content and mark scheme

Question number	Indicative content
2(f)	<p style="text-align: center;">A02 (4 marks)/A03 (4 marks)</p> <p>A02</p> <ul style="list-style-type: none"> • There has been a growth in private investment by TNCs into developing/emerging countries. • This growth is a result of TNCs being attracted by cheap supplies of raw materials, cheap workers, good transport links and infrastructure, proximity to markets and favourable government policies that sometimes offer incentives to TNCs to locate in their country. • Positive social and economic impacts of this growth include the provision of new jobs and skills for local people, local/national economy is improved, sharing of ideas, e.g. in terms of the production of goods or the organisation and management of industry. • Negative social and economic impacts of this growth could include the idea of 'exploitation' workers. • Understanding the impacts of changes to economic sectors can benefit a country can have positive and negative impacts on people and the economy. • Social/economic positive impacts are likely to be linked to increased wages/standard of living and the growth of a consumer society. • Social/economic negative impacts are likely to be linked to workers being exploited – low pay – long working hours – poor working conditions. <p>A03</p> <ul style="list-style-type: none"> • Growth in private investment by TNCs will often result in a combination of positive and negative impacts for people and the economy. • Impacts are inter-related, e.g. new jobs are created, which increases disposable income and consumer spending/this contributes to a positive multiplier effect on a larger scale for goods and services, e.g. improved infrastructure, better education etc.; TNCs exploit cheap labour, which means that workers are often badly paid, they are footloose and move out of a country at any point, which creates economic uncertainty for the host country. • Positive impacts can be short term and longer term and can impact on different groups of people. For example, in the short term, jobs are created for locals which, in the longer term, could provide them with the skills to set up their own business. Also, short term improvements in the economy may facilitate the reinvestment of money into education, health and infrastructure. • The negative impacts can also affect different groups of people over different timescales. For example, in the short term, labourers may

Question number	Indicative content
	experience low wages and a poor working environment (as the TNC wants to maximise profit), but in the longer term, a country may become reliant on a particular TNC – which is not sustainable.

Level	Mark	Descriptor
	0	No acceptable response.
Level 1	1–3	<ul style="list-style-type: none"> • Demonstrates isolated elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) • 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)
Level 2	4–6	<ul style="list-style-type: none"> • Demonstrates elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) • 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)
Level 3	7–8	<ul style="list-style-type: none"> • Demonstrates accurate understanding of concepts and the interrelationship of places, environments and processes. (AO2) • 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)

Student answers to part 2f

The growth of ICT in Bangalore has brought a number of social and economic impacts for India. Many large companies like Siemens and Nokia are attracted to India because of the cheaper labour and government incentives offered to locate their factories in the country. Locating their factories in India means the people of Bangalore are provided with jobs and a more stable income. This provides Indian people with a higher disposable income so encourages consumer spending, benefits local businesses, creating a positive multiplier effect. Another impact for India is the increase in skilled workers as a direct result of the training provided by Siemens and Nokia. The infrastructure in the areas close to the factories have been improved to enable the movement of goods for export.

Whilst the private investment from TNCs has brought many social and economic advantages it has also brought some negatives. The profits made by TNCs do not always benefit India because of a concept called leakage, where profits made by TNCs are taken out of the country. Secondly, exploitation of workers because of poor working conditions where people are expected to work long hours for low pay and little time for breaks.

Examiner's comments

This response is awarded 8 marks.

The candidate has started by explaining why TNCs (like Siemens and Nokia) have located in a India (named developing/emerging country), going on to consider the broader impacts that these TNCs can have (e.g. the multiplier effect). This demonstrates an accurate understanding of the question and this has been used to make logical connections between concepts throughout the answer.

In the second paragraph, the candidate considers the role of private investment and here the candidate directly meets the demands of **the command word 'assess' by considering both the positive and negatives** that TNCs have had on the named country.

TNCs in Bangalore, India have brought a number of advantages and disadvantages to the country. For example, the large companies provide jobs for the local people, providing them with more money to spend on a day to day basis. This also benefits India. On the other hand those working in the factories have to work for long hours in poor working conditions for low pay.

Examiner's comments

This response is awarded 4 marks.

The candidate has named a legitimate named developing/emerging country, but the lack of a named TNC and/or specific supporting information about India has undoubtedly restricted the marks available for this answer.

Nevertheless, the candidate does show a clear understanding of the question and provides some logical connections between TNCs and **the host country; there is some evidence of 'assess' (positive and negatives of TNCs)** which helps lift the answer into Level 2, although this is very generic and lacks the supporting evidence to move it further up the band.

Fieldwork questions

Example 1 – GCSE A, Paper 3, Question 1e

You have studied a river as part of your own fieldwork.

(e) Evaluate the reliability of your conclusions.

Indicative content and mark scheme

Question number	Indicative content
1(e)	<p style="text-align: center;">A03 (4 marks)/A04 (4 marks)</p> <p>A03</p> <ul style="list-style-type: none"> • Reliability is about making judgements on how close conclusions are to the actual changes occurring in the river channel/catchment. • Reliability will be most likely linked to results via methods – evaluation including equipment errors and operator errors. • How far data-collection methods used produced reliable results. • Judgement about limitations of equipment used/ operator error. • Recognition of issue in design methodology/sampling methodology may be flawed in terms of number of sites (spatial) and time of year (temporal). • A supported judgement is reached about the reliability of the results and conclusions. • An evaluation of how far the outcomes can be trusted (or repeated to obtain the same results). <p>A04</p> <ul style="list-style-type: none"> • There is evidence of using different skills and techniques to identify river changes. • There is evidence of using different skills and techniques to reach conclusions about river changes downstream. • There is evidence of own fieldwork conclusions linked to data and information.

Level	Mark	Descriptor
	0	No acceptable response.
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 are supported by limited evidence. (AO3) • 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)

Student responses to part 1e

My first conclusion for my investigation was the velocity of the River Ure increased from four equally spaced sites from source (site 1) to mouth (site 4).

The first data collection technique I conducted was to measure the velocity of the river. One of the problems when calculating the velocity is we used different sized floats at each of the sample sites; this is something that may have affected our results because a larger/heavier would have led to a slower velocity reading and therefore would may have skewed the results to show an increase in velocity downstream if lighter floats had been used at sites 3 and 4. This means that if lighter floats had been used at sites 3 and 4, the conclusion could have been that velocity decreases with distance downstream instead. On reflection, it would we could have reached a more reliable conclusion had we used identical floats (e.g. biodegradable dog biscuits) at each site – and repeated the method at each site 5 times so that we could arrive at a median result which would eliminate external influences such as a gust of wind.

My second conclusion for my investigation was the width of the River Ure increased from site 1 to 4. The data collection technique used to measure the width and depth was a measuring tape. One of the problems with this technique was ensuring that the tape measure was tight to each side of the river bank to ensure we got an accurate measurement. At sites 1 and 2 the river was flowing faster and there was more wind, which shifted the middle of the tape down the river so we measured a curve. This could have affected the reliability of my conclusion because at the sites further downstream, we measured the width straight across the river channel, which would have provided accurate width measurement; however, further upstream at sites 1 and 2, the width readings may have been inaccurately larger due to flaws in the measuring technique. Therefore, the conclusion that width increases downstream from sites 1 to 4 may be unreliable as the results have been influence by external factors such as velocity and wind speed.

Examiner's comments

This response is awarded 8 marks.

The response is Level 3 because the candidate provides a balanced and well-**developed argument on the reliability of the candidate's** conclusions with accurate judgements made about the issues related to the data-collection methods. The issues related to the data-collection methods have been clearly explained with supporting references to their own study, for example, indicating the survey sites of a named river and the external variables that have affected the results which have led to a potentially unreliable conclusion being reached.

Overall, it was judged that the response did have the depth of the **candidate's** own evidence to support the judgements required for top of band, and was therefore awarded full marks.

For my river study, I measured the width and depth. I used a tape measure with my group and one person went to the other side of the river. The problem was that the tape measure was getting stuck in the river. This might have meant that my results weren't great because the measurement might not have been right and therefore my conclusions could have been affected.

Examiner's comments

This response is awarded 2 marks.

The candidate attempts to discuss the issues related to the data collection methods used, but their ideas are unbalanced, with limited development and no clear conclusion provided; for the top of **Level 1, expect a conclusion to be included, e.g. "I concluded that width and depth increases with distance downstream"**.

The candidate has provided no specific reference to their study and therefore the response is generic, with limited relevant geographical terminology, therefore this would be a Level 1 response; it would be expected that a candidate would include some specific evidence from their own fieldwork to move into Level 2.

Example 2 – Question 2c

(c) Study Figure 2a in the Resource Booklet. It shows a sketch of sites used to collect coastal data.

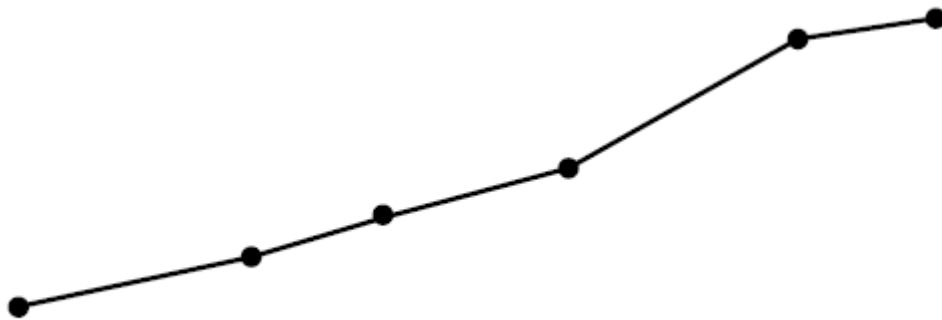


Figure 2a

Explain **one** reason why the students chose a stratified sampling approach.

(3)

Mark scheme

Question number	Answer	Mark
2(c)	<p>Award 1 mark for identification of a reason and a further one mark for an explanation of the reason, up to a maximum of 3 marks:</p> <p>the sampling points are where the angle of the beach changes (1), therefore this is where you would expect a change in features of the beach e.g. sediment size and roundness (1) so that sampling between these changes in gradient are unlikely to show how significant change relates to the beach gradient (1)</p> <p>stratified sampling will ensure that similar sites are used throughout the width of the beach, e.g. where the angle changes (1), other sampling approaches, such as random and systematic (1), will miss the significant changes (1).</p> <p>Accept any other appropriate response.</p>	(3)

Student answers to part 2c

A reason why the students chose to use stratified sampling was to ensure a consistent and accurate approach to different sites across the beach. This enabled them to record where the angle of the beach changed because if they had decided to use random sampling, they may have missed a significant change. Therefore the results wouldn't be representative.

Examiner's comments

This response is awarded 3 marks.

The candidate has identified a clear reason for why the students chose to use a stratified sampling approach (1) with clear development of that reason, so that visible changes in beach angle are measured **through using the phrases 'this enabled them' and 'therefore'** (1) and acknowledges a weakness of an alternative sampling technique (1).

The students chose stratified sampling because they were recording results where the angle of the beach changed.

Examiner's comments

This response is awarded 1 mark.

This candidate has provided a reason why the students chose a **stratified sampling approach but haven't developed why this sampling approach would have been used.**

Example 3 – GCSE A, Paper 3, Question 3d

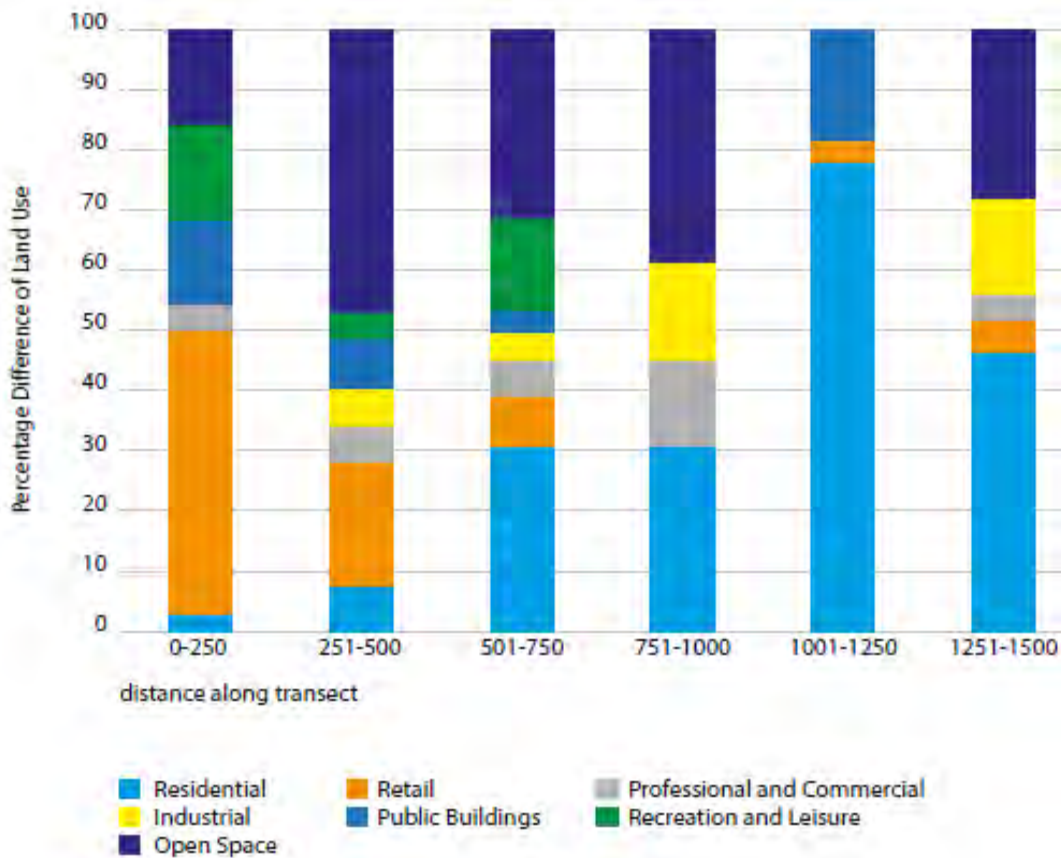


Figure 3

(d) Figure 3 shows the results from a student’s survey investigating shop types with distance from the CBD in Shrewsbury, a market town in Shropshire.

The aim of the student’s investigation was to consider changes in land use in a central urban area/CBD.

The student surveyed land use along six roads out from the CBD and had seven categories of land use, to find out their variation within the town.

My Findings

- Retail was the dominant land-use category along the transect.
- Industry was found out of town at sites 5 and 6 only.
- There was more open space as we moved away from the CBD.
- As you move away from Shrewsbury’s CBD, the types of land use change but, overall, land use remains varied along the transect.

Study Figure 3 in the Resource Booklet.

Evaluate the student’s method and findings.

Indicative content and mark scheme

Level	Mark	Descriptor
	0	No acceptable response.
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 are supported by limited evidence. (AO3) 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)

Question number	Indicative content
3(d)	<p style="text-align: center;">AO3 (4 marks)/AO4 (4 marks)</p> <p>AO3</p> <ul style="list-style-type: none"> The student presented data within only six broad distance categories along the transect, therefore patterns of variation may be hidden within the 250 m interval. The distribution of the road is unknown and could be clustered in one specific area, producing a degree of bias/not representative of the land use of the whole of the town. The student has not surveyed between the roads and land use along the roads may be different to the land use between the roads. The student used only seven categories of land use, which meant some land uses may not fit within the categories selected. The student's results give a generalised pattern of land use but lack fine grain that would be useful if comparing to an urban geography model. <p>AO4</p> <ul style="list-style-type: none"> Residential was the dominant land use along the transect. Industry is found at four of the six transect distances (251-500, 501-750, 751-1000, 1251-1500). The amount of open space varies moving away from the CBD at the modal class 251-500. With increasing distance away from the CBD, there is a change in land use, although it becomes less varied past the 751-1000m location.

Student answers to part 3d

The student's first finding of retail was the dominant land-use category along the transect does not match the data presented in Figure 3. Figure 3 shows residential was the dominant land-use with percentages evident along each site. Furthermore, using only 7 land-use categories may have meant that some land-uses couldn't fit into one of the categories.

Another problem with the student's findings was they stated that industry was found out of town at sites 5 and 6 only but Figure 3 shows it was found at 4 of the 6 transect sites.

Finally, the student states the land-use is

variable ~~different~~ along the transect but the variations ~~differences~~ are not as clear further away from the CBD.

To conclude, the student's methods have led to a generalised set of data with some inconsistencies in their findings.

(Total for Question 3 = 18 marks)

Examiner's comments

This response is awarded 7 marks.

The response is Level 3 because it provides a well-developed **argument on the student's methods and findings based on the CBD survey**, with accurate judgements made about the issues related to the data-collection methods and their findings

This candidate does pick up on **several inaccuracies in the student's findings**, such as the findings about the dominance of retail and the existence of industry.

The issues related to the problems of the student's findings have been clearly explained with supporting references to Figure 3, for example, indicating that residential was the dominant land use and not retail. The student has also linked their explanations about the findings to methods used and there is evidence of geographical terminology used consistently. As this is an evaluate question, the student has provided a short concluding comment on their thoughts related to the methods and findings.

The candidate address the methods and finding carried out by the student, but the answer is lacks the balance required for top of Level 3, with the evaluation about the findings being stronger than that of the methods.

A problem with the findings is that there were actually 4 sites with industrial land-use and not 2 as the student said. Also, the student says retail was the dominant land-use but again this is wrong because residential is in all the bars in Figure 3. This shows there are some differences between their findings and results. Also, the student used only 7 categories which might have meant not all land-uses could be recorded.

Examiner's comments

This response is awarded 4 marks.

The candidate has attempted to evaluate the issues related to the methods and findings but their ideas are not consistently fully developed. The candidate has provided some reference to the study, using both Figure 3 and the findings, with some reference to geographical terminology.

This response gets into Level 2 as both the methods and findings have been considered and some links made, but these ideas need to be developed more fully to move the answer to the top of Level 2.