ResultsPlus

edexcel

Examiners' Report
June 2013

GCSE Geography A 5GA2H 01

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications come from Pearson, the UK's largest awarding body. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information visit our qualifications websites at www.edexcel.com or www.btec.co.uk.

Alternatively, you can get in touch with us using the details on our contact us page at www.edexcel.com/contactus.

ResultsPlus

Giving you insight to inform next steps

ResultsPlus is Pearson's free online service giving instant and detailed analysis of your students' exam results.

- See students' scores for every exam question.
- Understand how your students' performance compares with class and national averages.
- Identify potential topics, skills and types of question where students may need to develop their learning further.

For more information on ResultsPlus, or to log in, visit www.edexcel.com/resultsplus.
Your exams officer will be able to set up your ResultsPlus account in minutes via Edexcel Online.

Pearson: helping people progress, everywhere

Pearson aspires to be the world's leading learning company. Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at: www.pearson.com/uk.

June 2013

Publications Code UG036018

Introduction

The Natural Environment paper (Higher Tier) requires candidates to answer one question on a physical geography topic (Coastal, River, Glacial or Tectonic Landscapes) and one question on an applied topic of either Wasteful or Watery Worlds. The paper was once again well received by centres and it was pleasing to see that overall attainment has improved in comparison to previous series. Once again both Coastal and Tectonic Landscapes proved to be the most popular options, with Glaciers again proving least popular in Section A. In Section B, Wasteful World was clearly more popular than the Watery World counterpart. This was the second inclusion of a spelling, punctuation and grammar (SPaG) mark in the paper. Candidates were awarded between 0 and 3 marks for the quality of SPaG on the extended writing item in either Question 5 or Question 6, therefore increasing the overall score for this section to 28 (from 25) and the overall paper mark to 53 (from 50). In Section A, the River Landscapes question scored the highest mean mark, while Coastal landscapes realised the lowest. In Section B, Wasteful World was not only the most popular option but also scored the highest mean mark.

This is the last paper in its current format before the unit goes linear in 2014. In the future candidates will have to answer a 15 mark question on Coastal, River and Tectonic Landscapes in Section A. Section B will remain an option, however, the mark allocation will be reduced to 20, instead of 25. Glaciation will no longer be an option.

Question 1 (a) (i)

The majority of candidates were able to correctly identify a correct feature of a constructive wave from the resource and therefore scored 1 mark.

Question 1 (a) (ii)

This question was originally intended to get candidates to give features not shown on Figure 1a. However, we felt that this may not have been completely clear from the question therefore all correct answers were accepted. This meant that candidates could gain all 3 marks from the diagram. The majority of candidates were therefore able to do this, common answers were wave height below 1m, or greater wavelength compared to height. Few candidates mentioned destructive wave processes and no credit was given for mention of the shape of the beach as this did not relate to the wave itself. Overall many candidates comfortably gained 2 marks. One point worth noting is that candidates need to be specific on such questions, eg small wave was not accepted, only wave below 1m in height.

Question 1 (b) (i)

Although it was clear that centres had practised the descriptions of landforms with their candidates there was still a disappointingly large number who limited themselves with explanatory answers. Here description only was credited; therefore a series of features in an explanatory context was not rewarded as they did not meet the command. This was often a shame as there was evidence of some excellent geography in many of the answers. A range of points were accepted, and good answers were often brief. Common answers made reference to the cliff height, or length of the wave cut platform, or the geology of the cliffs (chalk for jointed) or the rocky nature of the platform. It seems that candidates still need to practise the skill of landform description.

This is a good example of a response which scored full marks (4/4).

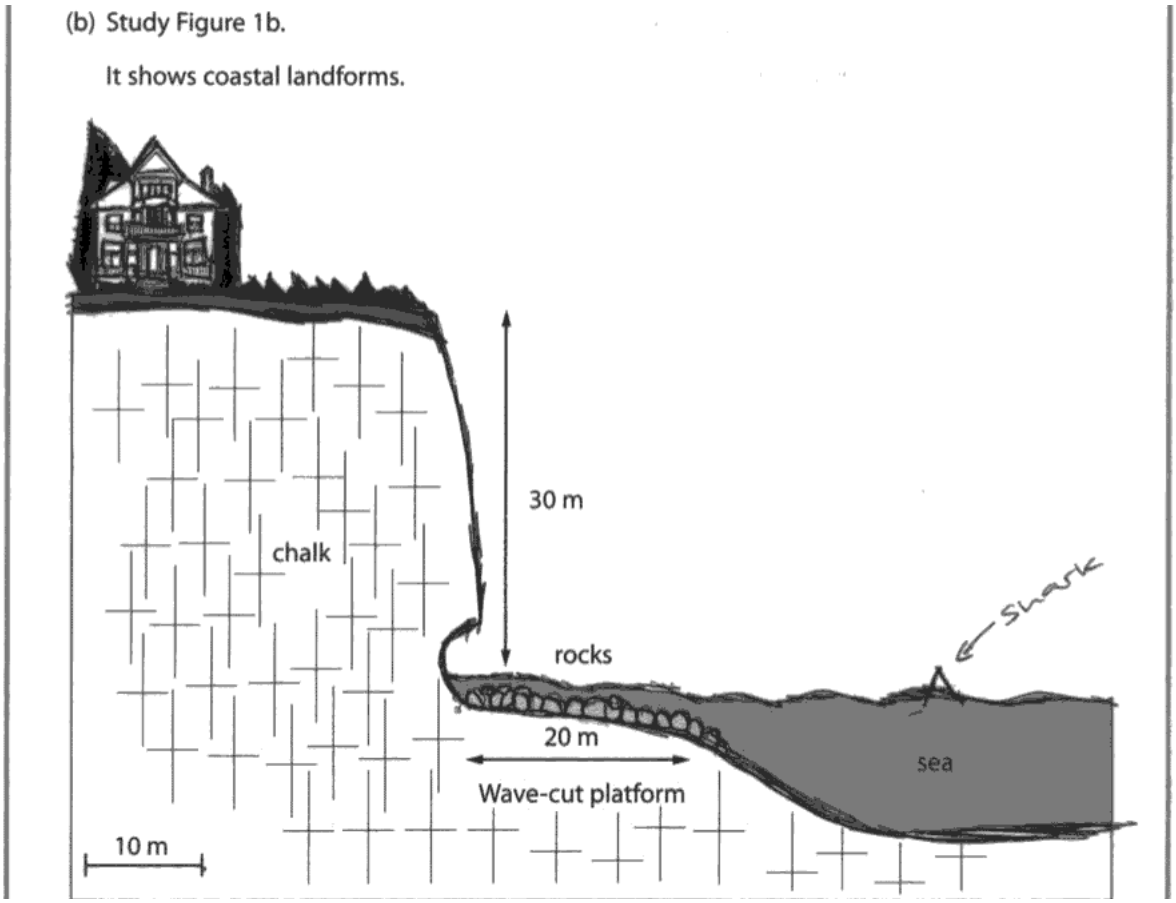


Figure 1b

(i) Describe the cliff and wave-cut platform.

Use evidence from Figure 1b in your answer.

(4)

The cliff is about 30m high. It is made its geology is Chalk. There is vegatation on the cliff top and a house. the wave cut platform is 20m long and has a build up of material on it. The height of the wave platform is about 7m, This means the cliff is over hanging.

ResultsPlus
Examiner Comments

This candidate focuses entirely on description and reaches 4 marks in the first four lines. They have used the resource well and followed the command. Other candidates often felt the need to explain each feature which was self-limiting.

ResultsPlus
Examiner Tip

Ensure you understand the difference between describe and explain. Practising unseen photographs of landforms will help improve understanding of the features and potentially could then be used as a lead in to explaining the features. This way a holistic understanding of the landform is achieved.

Question 1 (b) (ii)

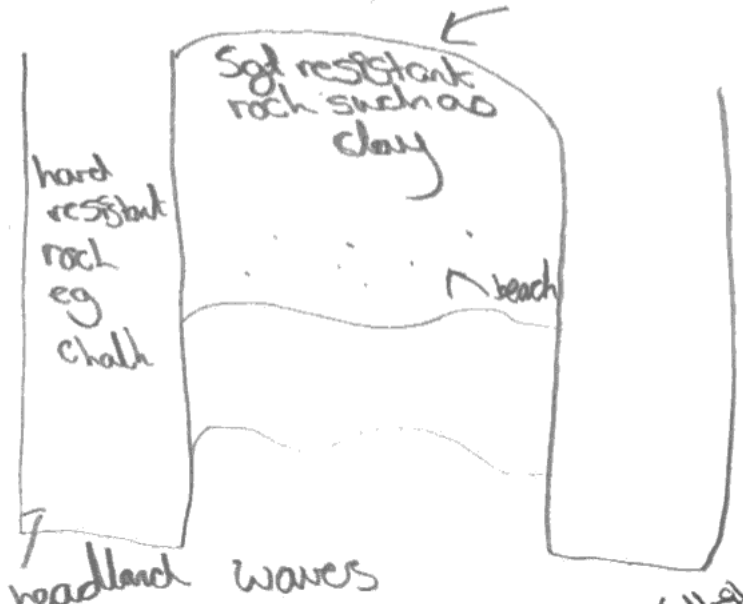
Although the landform was well understood by the majority of candidates (ie not confused with something else), and many candidates were able to reach 2-3 marks for clear description and partial explanation, relatively few managed to achieve full marks. Many diagrams were used by candidates, however, the best ones were those that had meaningful annotation or showed a clear sequence in the stages of the landform formation. Most candidates recognised the differences in geology and the differential erosion and made reference to a process. However, only the high scoring candidates were able to explain a specific process eg hydraulic action (often an easy way of achieving explanation on a landform question) and its role in the formation of the headland and bay. Other high scoring candidates developed the differential erosion idea by focusing on sheltering in bays, and the impact of constructive waves in building beaches, or they focused on the recession of the headland as a consequence of wave refraction. Few candidates developed or were distracted by focusing on the formation of the cave-stump landforms. Although a good effort was made by many, there is clear potential for further improvement on explaining this 'straight-forward' landform.

The following response scored full marks.

(ii) Explain the formation of headlands and bays.

You may use a labelled diagram(s) in your answer.

(4)

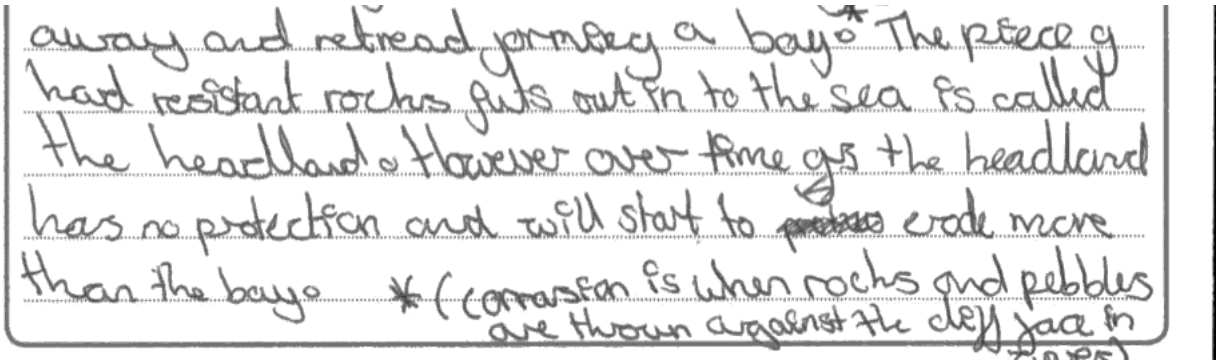


*3 (attrition is when rock and pebbles are grinded together in the waves.)

*1 from the waves

*1 It is then a sheltered area where beaches can be deposited.

Headlands and bays occur wher ther is bands of resistant rock eg chalk next to sft resistant rock eg clays in a cliff. Due to erosion *1 such attrition *3 and corrasion *4 The sft resistant rock will start to wear


away and retread forming a bay. The piece of hard resistant rocks juts out in to the sea is called the headland. However over time as the headland has no protection and will start to erode more than the bays. *(corrasion is when rocks and pebbles are thrown against the cliff face in

ResultsPlus
Examiner Comments

This candidate scores full marks (4) and clearly shows an understanding of the landform through their diagram, which has useful descriptive statements on it. Although the answer is not always in a logical order, it clearly makes reference to, and explains, process and the candidate is able to develop the concept of headland recession at the end of the answer. This candidate understands differential erosion and the concept that the headland and bay can recede at different rates over time.

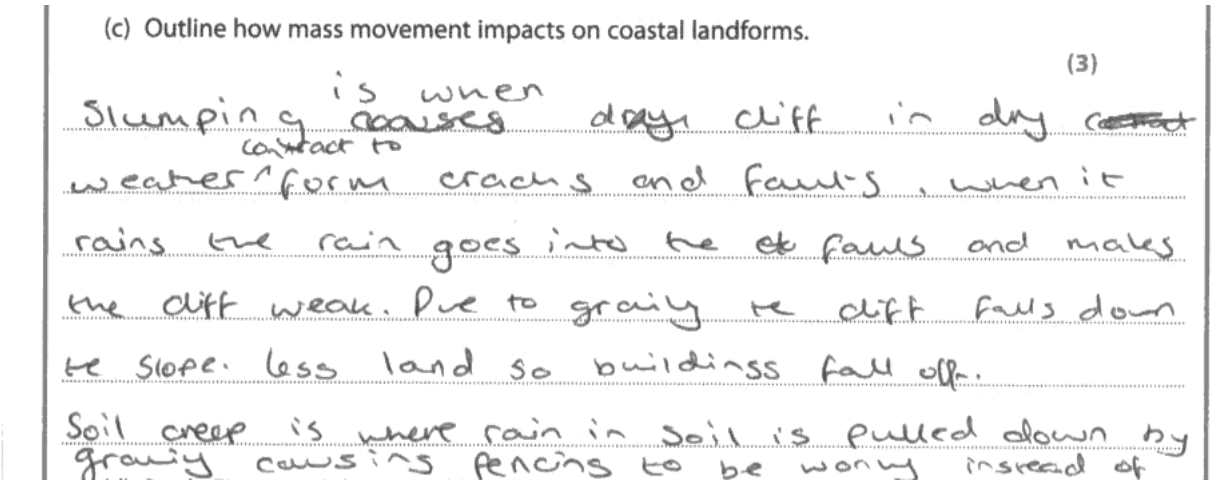
ResultsPlus
Examiner Tip

Ensure that the use of the diagram aids the understanding of the landform formation. Try and show stages of formation over time, and where possible annotate process explanations onto them. When explaining a landform try to follow a logical sequence from start to end.

Question 1 (c)

With a relatively low mean mark it was clear that some candidates found this question a little difficult. Candidates fitted into one of two categories: (i) they had no idea what mass movement was, or (ii) they were spot on and clearly able to link to specific processes. High scoring candidates focused on the actions of soil creep and slumping and many were able to distinguish the different impacts caused by each process, such as formation of terracettes/ ridges on cliffs due to soil creep, or the curved collapsed nature of cliffs due to slumping. Some candidates were also able to differentiate these ideas with mudslides and landslides, with some references to the famous Scarborough, Holbeck Hall Hotel landslip. Lower scoring candidates gave references to other types of transportation eg longshore drift, or guessed at the impact on coastal landforms, eg loss of land (sometimes in the context of erosion).

This response scored full marks.



(c) Outline how mass movement impacts on coastal landforms.

(3)

Slumping is when causes days cliff in dry ~~contact~~ contact to weather form cracks and faults, when it rains the rain goes into the ~~et~~ faults and makes the cliff weak. Due to graity the cliff falls down the slope. less land so buildings fall off.

Soil creep is where rain in soil is pulled down by gravity causing fencing to be worny instead of

ResultsPlus
Examiner Comments

This candidate scores a full 3 marks and has a clear understanding of the impact of mass movement on coastal landforms. They get to 3 by explaining the process of slumping and its effect, but are also able to add the different impact of soil creep.

ResultsPlus
Examiner Tip

Make sure you learn your processes - they underpin all of the physical geography!

Question 1 (d) (i)

The overwhelming majority of candidates were able to recognise a type of hard engineering found in Figure 1c. Common answers included rip-rap, sea walls and groynes.

Question 1 (d) (ii)

This question differentiated well as candidates scored on average between 2-3 marks. Few candidates were phased with the command to 'annotate' which was pleasing, only a few candidates chose to write a block of text not linked to the diagram. Many were able to give descriptive features of the management type; however, not all were able to show how the management type reduced the effects of flooding or erosion and therefore were held back in terms of gaining marks. Some candidates also wrote about more than one management type and were therefore self-limiting, often scoring a maximum of 2 marks for lack of development. Most answers focused on the ability of the management technique (not including groynes) to absorb the impact of waves, or act as a barrier. Some higher scoring candidates were able to develop the idea of durability. Those that referred to groynes could often identify the stopping of longshore drift, but struggled to show how beach development could subsequently reduce wave energy or act as a buffer. Overall it was pleasing to see that candidates had the ability to apply their knowledge in a new circumstance.

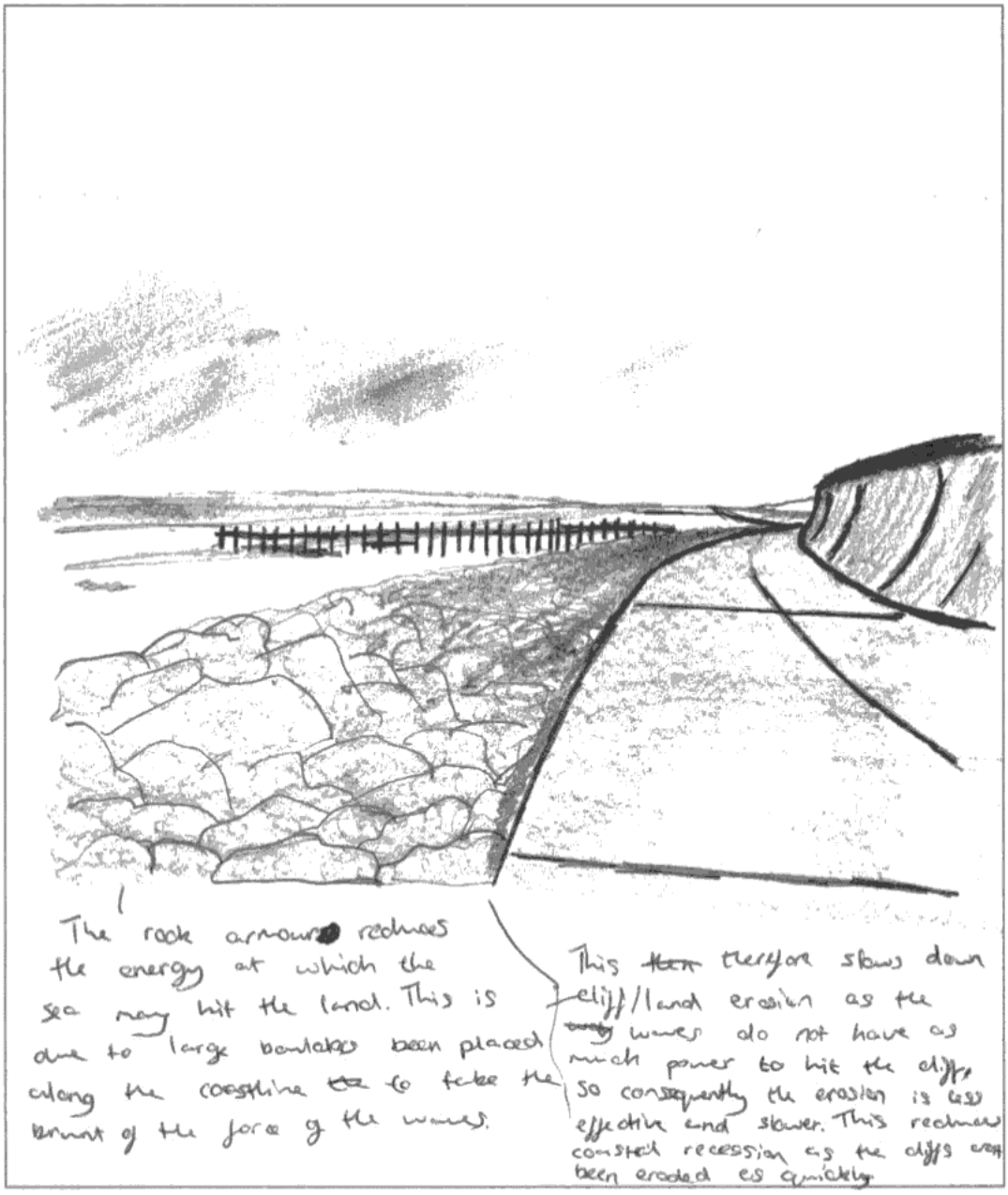
This is an example of a response that scored full marks.

(ii) In the box below is a sketch of Figure 1c.

Annotate the sketch to explain how **one** of the coastal management methods reduces the effects of coastal recession.

(4)

Chosen method Rock armour



ResultsPlus
Examiner Comments

This candidate scores full marks (4) with two points, both developed. Although the answers are blocks of text they are loosely linked to the diagram, which is sufficient in recognising the role of rip-rap. This candidate is able to explain the impact the boulders have on reducing wave energy and in the second point develop an explanation of how it subsequently reduces impacts on the coastline.

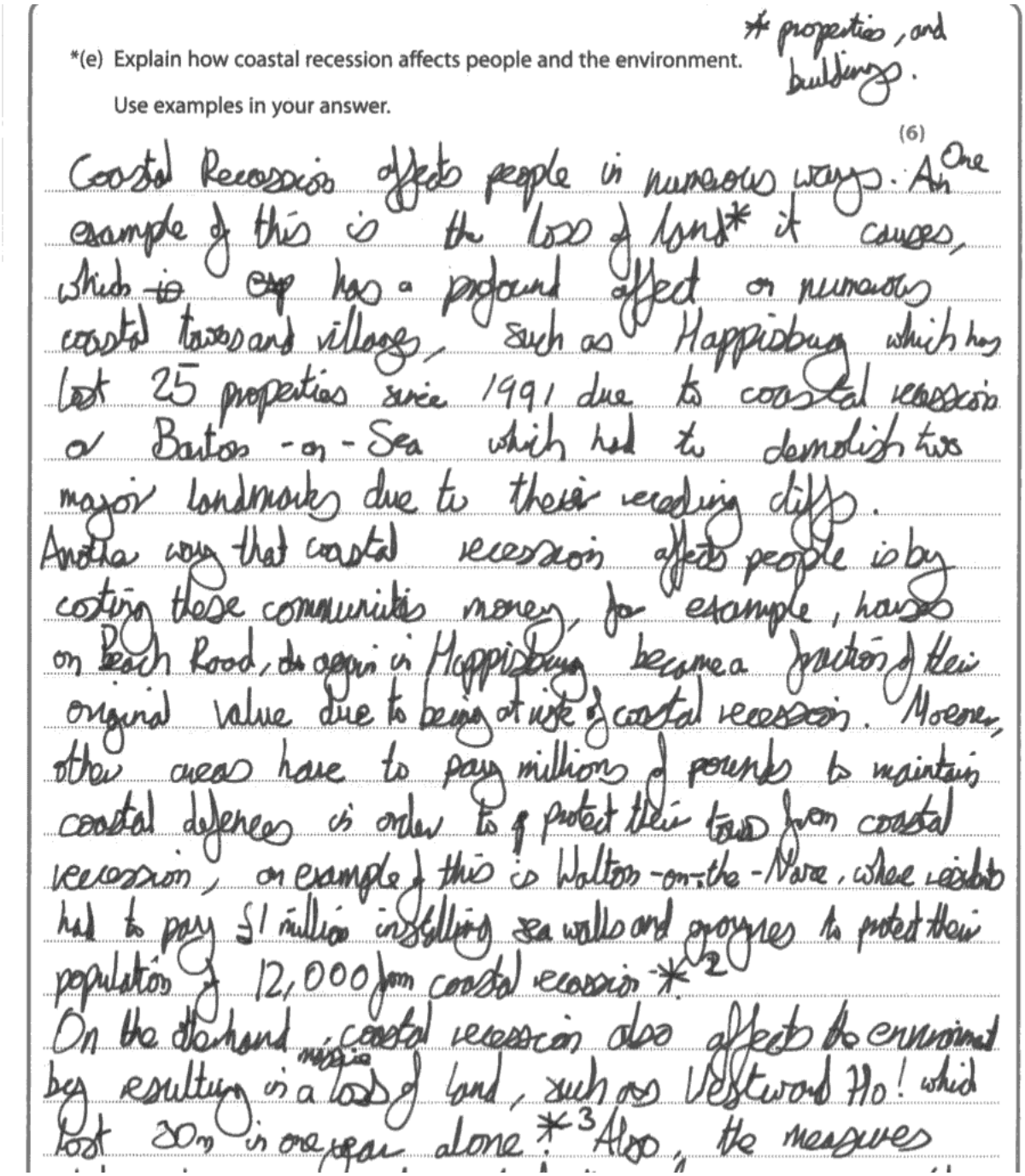
ResultsPlus
Examiner Tip

Candidates should practise the skill of annotation, both in terms of understanding coastal management and identification of landforms, to improve their overall applied understanding.

Question 1 (e)

This question was well-received by most candidates although some were clearly perturbed by the question not being on coastal management. Many candidates were able to clearly describe the impacts of coastal recession on people, with many also offering good locational detail on case studies such as Happisburgh, Barton and the Holderness coastline. However many were limited by their omission of impact on the environment, and such unbalanced answers (even with good explanation and locational detail) were help at the top of Level 2. In fact many candidates included the impact on the environment as an afterthought and it was clear that this element had not been emphasised - maybe due to the fact that the case studies from the course texts do not focus on environment. Make sure the case study matches the requirement of the specification.

This is an excellent answer which scored the full 6 marks.



*(e) Explain how coastal recession affects people and the environment.

Use examples in your answer.

(6)

* properties, and buildings.

Coastal Recession affects people in numerous ways. An One example of this is the loss of land* it causes, which ~~is~~ can has a profound affect on numerous coastal towns and villages, such as Happisburg which has lost 25 properties since 1991 due to coastal recession or Barton-on-Sea which had to demolish two major landmarks due to their receding cliffs. Another way that coastal recession affects people is by costing these communities money, for example, houses on Beach Road, do again in Happisburg become a fraction of their original value due to being at risk of coastal recession. Moreover, other areas have to pay millions of pounds to maintain coastal defences in order to protect their town from coastal recession, an example of this is Walton-on-the-Naze, where residents had to pay £1 million in building sea walls and groynes to protect their population of 12,000 from coastal recession *2

On the other hand, coastal recession also affects the environment by resulting in a loss of land, such as Westward Ho! which lost 30m in one year alone *3 Also, the measures

taken by areas to protect themselves from coastal recession can also have a negative impact on the environment. for example after Mappleton installed groynes the disruption to longshore drift resulted in a much greater rate of recession further up the coast.

(Total for Question 1 = 25 marks)

ResultsPlus
Examiner Comments

The candidate uses a range of examples (therefore is not self-limiting) and focuses their answer on the impact on people (reference to Barton) and the impact on the environment (Westward Ho!). They use good locational data and both aspects are clearly explained to give a balanced answer.

ResultsPlus
Examiner Tip

When focusing on coastal recession a range of shorter examples which cover the requirements of the specification are sometimes better than learning one long case study. This therefore helps comparison between the different examples and improves your overall geography, as you find out how different areas are affected.

Question 2 (a) (i)

Many candidates were able to identify the correct feature as 'watershed'. Some did confuse it, however, with drainage basin.

Question 2 (a) (ii)

The vast majority of candidates were able to identify two additional features of a drainage basin. These often included: mouth, tributary, source or confluence. Landforms such as waterfall or delta which were clearly not evident on Figure 2a were not accepted, though floodplain and meander were. Some very bright candidates identified ria as a possible feature.

Question 2 (b) (i)

Although there were not as many features evident from Figure 2b, compared to Figure 1b, the quality of descriptive answers provided here were often to a much better standard. Some candidates were self-limiting by explaining the features, though many did identify the 100m drop of the waterfall. Other common responses were the interlocking spurs, the different bands of rock, the steep relief and the larger boulders in the channel. Centres are advised to emphasise to candidates that a description of a landform is different to an explanation. Good responses here were often brief and to the point. Often longer responses included explanation, for which there was no credit. No marks were given for the recognition of the waterfall as this formed part of question (b) (ii) and it was felt that we could be double-crediting responses.

This is a 4 mark response.

(b) Study Figure 2b.

It shows river landforms in Iceland.

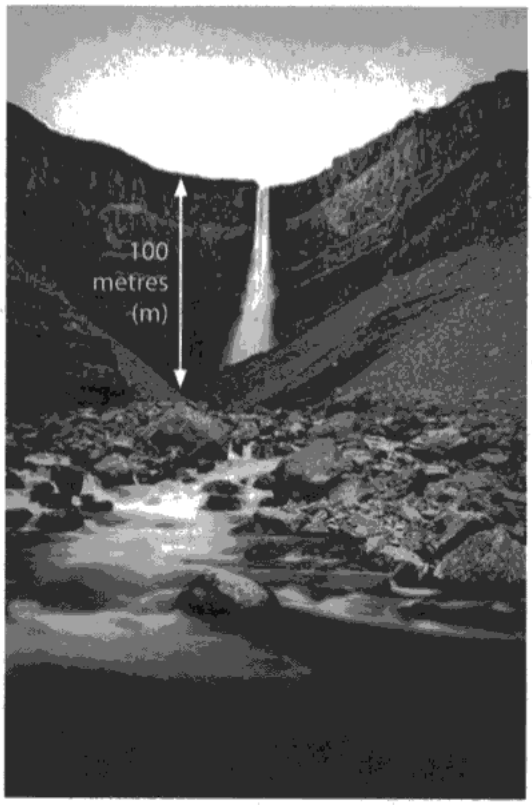


Figure 2b

(i) Describe the river landforms shown in Figure 2b.

Use evidence from Figure 2b in your answer.

(4)

I can see a steep V shaped valley, which is 100m high. The steep V shaped valley is a gorge, created by the progression of the waterfall upstream. The waterfall is moving upstream because of the horizontal layers of hard and soft rock on top of eachother. I can see the difference in the rocks because of the colour differences. I can also see interlocking spurs, which are areas of hard rock that the river cannot erode. There may also be rapids, which are areas of hard rock standing vertically in the river.

ResultsPlus

Examiner Comments

Although this candidate includes some explanatory comments, their answer is clearly descriptive and gets to full marks after the first 5-6 lines (even with the explanation). The first sentence is worth 3 marks and is a clear, descriptive statement.

ResultsPlus

Examiner Tip

Practise describing landforms from unseen resources and develop these descriptions as a way to inform explanation. Candidates will then have clear understanding of both description and explanation, while learning a range of landforms at the same time.

Question 2 (b) (ii)

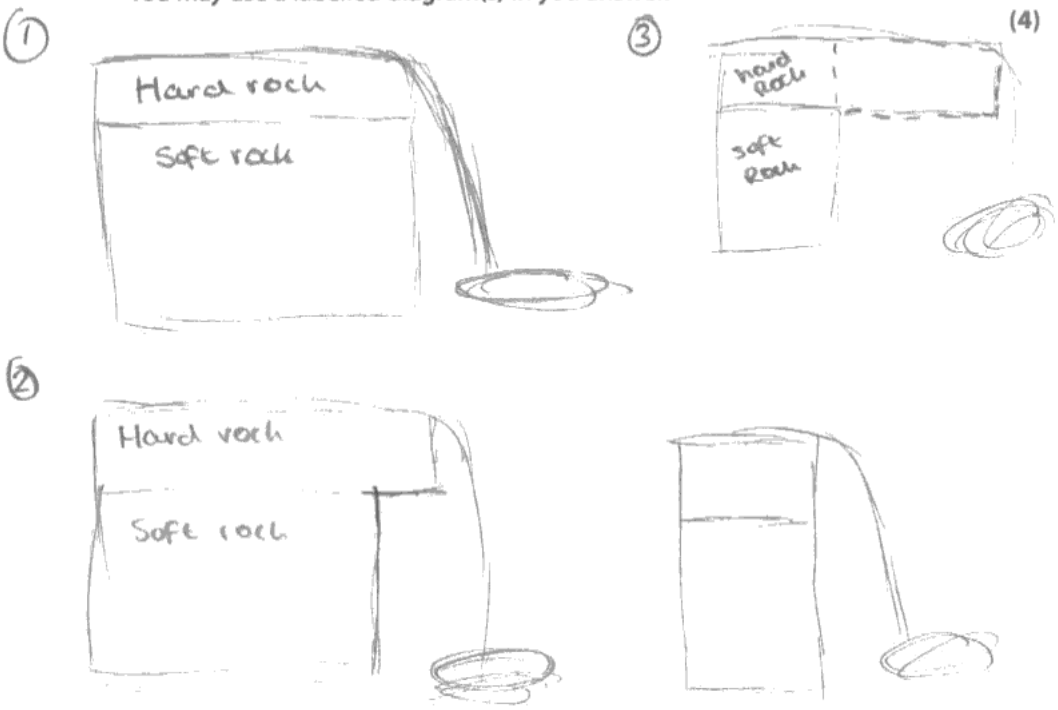
This question generally performed better than Question 1(b)(ii), with many candidates scoring either 2 or 3 marks, and offering some partial explanation. Most candidates made use of the space for a diagram and there were examples of some excellent diagrams showing the stages of formation. However, these could be improved with clear annotation or explanation, which develop the processes at work. Many answers focused on the relationship between hard and soft rock and the subsequent formation of plunge pool and overhang, with some then developing this into gorge formation. Some candidates missed the opportunity to explain the processes at work in the plunge pool eg attrition, abrasion and hydraulic action. Many picked up on the reason for the collapse of the overhang, though few understood the initial formation of the waterfall, instead assuming that the soft rock beneath the hard rock was magically exposed. It would be good to see in future, references to waterfall formation along a fault line or due to an intrusion.

This response just reached 4 marks.

(ii) Explain the formation of a waterfall.

You may use a labelled diagram(s) in you answer.

(4)



A waterfall is found in the upper stage of the river. the water flows along the top of the hard rock and undercut the soft rock underneath the hard rock due to hydraulic action. A plunge pool is then formed ~~here~~ underneath where the water lands. This plunge

pool is made deeper by corrasion where sediment scrapes along the bottom of the plunge pool. The soft rock is then undercut so much that the hard rock falls due to lack of support and gravity. Waterfalls keep using this method to retreat. A gorge is

ResultsPlus
Examiner Comments

This candidate includes a diagram which clearly shows the stages in waterfall development, but they could have improved this with meaningful annotation. They clearly describe the changes and have some detail on the processes and an explanation for the collapse of the overhang. The answer (out of clip) goes on to outline the development into a gorge.

ResultsPlus
Examiner Tip

Ensure that you use diagrams to show the stages of waterfall formation. Equally it is important to ensure that you take the opportunity to develop process understanding in the context of waterfall formation - this is often an easy way to develop explanation in your answer.

Question 2 (c)

Some candidates found this question quite difficult. They fitted into one of two categories: (i) they had no idea what mass movement was; or (ii) they were spot on and clearly able to link to specific processes. Those that understood often achieved 2 marks, with common answers focusing on the movement of land towards the channel and some outline of how that occurred. Other answers were given in a general context and not related to river landforms; even though these were credited they were held at 2 marks for not fully focusing on the question. Lower scoring candidates, who lacked knowledge of the processes, often related their answer to transportation within the channel or deposition.

This response scored full marks.

(c) Outline how mass movement impacts on river landforms.

(3)

Mass movement is the movement of land due to moisture and gravity. Examples are # slumping and soil creep. If slumping occured on levees, the levees would break and the river would flood. Also if flood the river because of land being moved into the river.

ResultsPlus
Examiner Comments

This is a good answer, which scores full marks (3) and clearly focuses on specific processes and the impact on the landscape. The references to the causes of the action further aid the answer.

ResultsPlus
Examiner Tip

Ensure you understand and learn the specific processes as these underpin physical geography.

Question 2 (d) (i)

Many candidates struggled to identify the type of management as a flood relief channel or channelisation. More focus on recognition of such methods would help.

Question 2 (d) (ii)

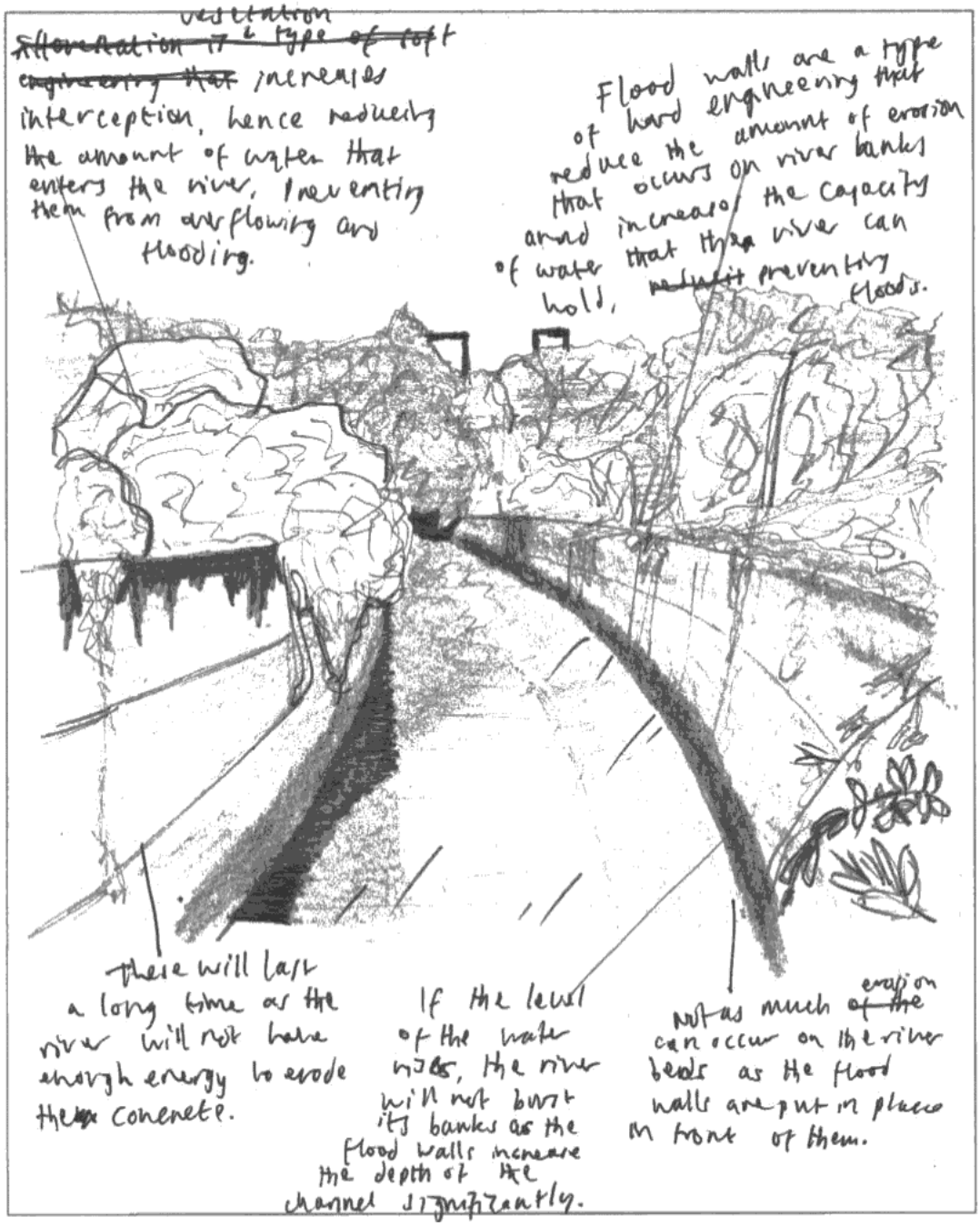
Although the sketch proved to be a little difficult for some candidates, the fact that they could write about more than one method (compared to Question 1(d) (ii)) compensated for recognition difficulties. Many candidates made reference to the durability of the concrete or the increased capacity of the channel. Some correctly identified the impact of the vegetation as a buffer zone which could intercept heavy rainfall or take up overflowing water. Even though candidates were able to recognise these features some were limited by not explaining how they reduced erosion or flooding, or by just writing about the advantages and disadvantages. Overall, it was pleasing to see how candidates applied their knowledge and used the skill of annotation.

This response scored all 4 marks.

(ii) In the box below is a sketch of Figure 2c.

Annotate the sketch to explain how the river management method reduces the effects of erosion and/or flooding.

(4)



ResultsPlus
Examiner Comments

This was a comprehensive answer which scored full marks (4) but could have scored more, were they available. There are a range of points with clear explanation of the methods and how they can reduce flooding and erosion. This is an excellent example of clear annotation, nicely linked to different parts of the diagram.

ResultsPlus
Examiner Tip

Practise annotating, especially on the advantages of river management methods and landforms, where there is an obvious application. It is a good way of applying knowledge to unseen resources.

Question 2 (e)

Candidates generally coped well with the demands of this question. Many candidates used a range of good examples in their answers (notable case studies included Boscastle, Mexico, USA, Pakistan, Carlisle and Cockermouth) and as such had a stream of facts in their responses. This enabled candidates to frequently reach the top of the Level 2 mark band. However, as for the coasts question there was a greater emphasis on the impact on people rather than on the environment which led to unbalanced answers. Answers which had no focus on the environment were held at the top of Level 2. Answers which concentrated on two case studies, each focusing on the people and environmental impacts, tended to have better focus and more balance. Centres should ensure that their case studies meet the requirements of the specification, even if it is in the course text.

This response scored full marks.

*(e) Explain how flooding affects people and the environment.

Use examples in your answer.

North-West (6)

In Pakistan the River Indus flooded in late July 2010 after a month of more or less continuous rainfall and an unusually intense monsoon season. The flooding directly affected approximately 17 million people with 1.2 million houses damaged, 1600 people reported dead and around $1 billion of damages caused. As many of the areas affected along the river were provincial, poor areas it was difficult for rescuers to reach survivors so there were difficulties in distributing clean water and food. Around 1000 schools were closed, disrupting children's education. The economic impact of the floods was severe as the Pakistani economy relies on agriculture. 80% of fields in the region were waterlogged and around 3.6 million hectares of crops were

destroyed, causing cotton prices to rise. 1.2 million livestock and 6 million pantry were killed, creating food shortages and decreasing the quality of life of locals. Many people lost all their possessions.

ResultsPlus
Examiner Comments

This is a good example of a candidate who scored the full 6 marks focusing on the Pakistan floods. The answer has clear, specific detail throughout and communicates the impacts on people very clearly. The impact on the environment can be linked to people; in this case the impact on fields and crops is well-developed allowing access to marks at the top of Level 3. This is a good use of a detailed case study.

ResultsPlus
Examiner Tip

Ensure that your choice of examples cover all of the specification requirements. If only one is studied ensure that it looks at impacts on both people and the environment.

Question 3 (a) (i)

This question proved to be a slightly difficult opener for some candidates, although many recognised rock lip as the correct answer.

Question 3 (a) (ii)

The concept of abrasion was well-understood by most candidates and many understood that it occurs due to the movement of the glacier carrying sediments which scour the base and sides of the valley.

Question 3 (b) (i)

This was a generally well-answered question with candidates showing secure knowledge of a range of glacial landforms. Some candidates did however tend to explain, which limited their responses. Some candidates made reference to both hanging valleys and U-shaped valleys in a generic context and therefore were limited to 2 marks as they did not explicitly reference Figure 3b. Candidates who adopted quantification in their answer, use of the scale bar or number of valleys scored well.

Here is an example of an answer scoring full marks (3).

(b) Study Figure 3b.

It shows upland glacial landforms.

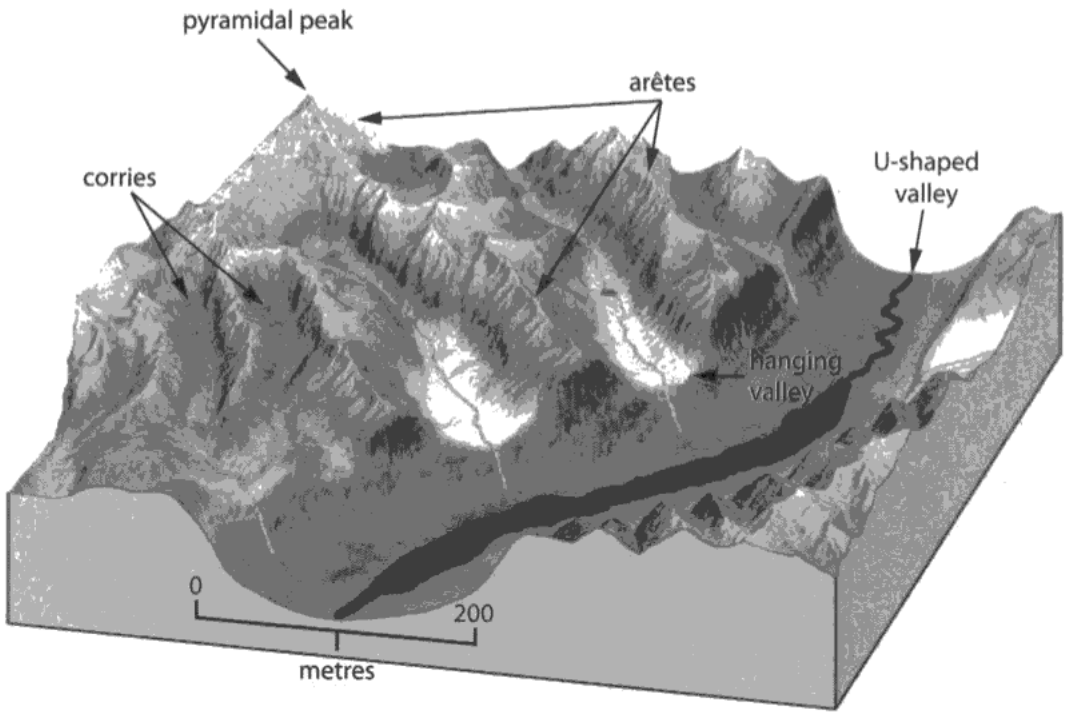


Figure 3b

(i) Describe the features of hanging valleys and U-shaped valley shown on Figure 3b.

Use evidence from Figure 3b in your answer.

(3)

The Ushaped valley is 200m wide at its widest point and the valley floor is about half of the total width. There is a 400m long ribbon lake that is fed by the water coming down from corrie lakes through the hanging valleys and the waterfalls they produce ~~the two~~ The hanging valleys are, on average, around 40m above the valley floor and all 4 of them begin with a corrie.

ResultsPlus
Examiner Comments

This candidate uses numerical data to substantiate their description and limits the amount of explanation.

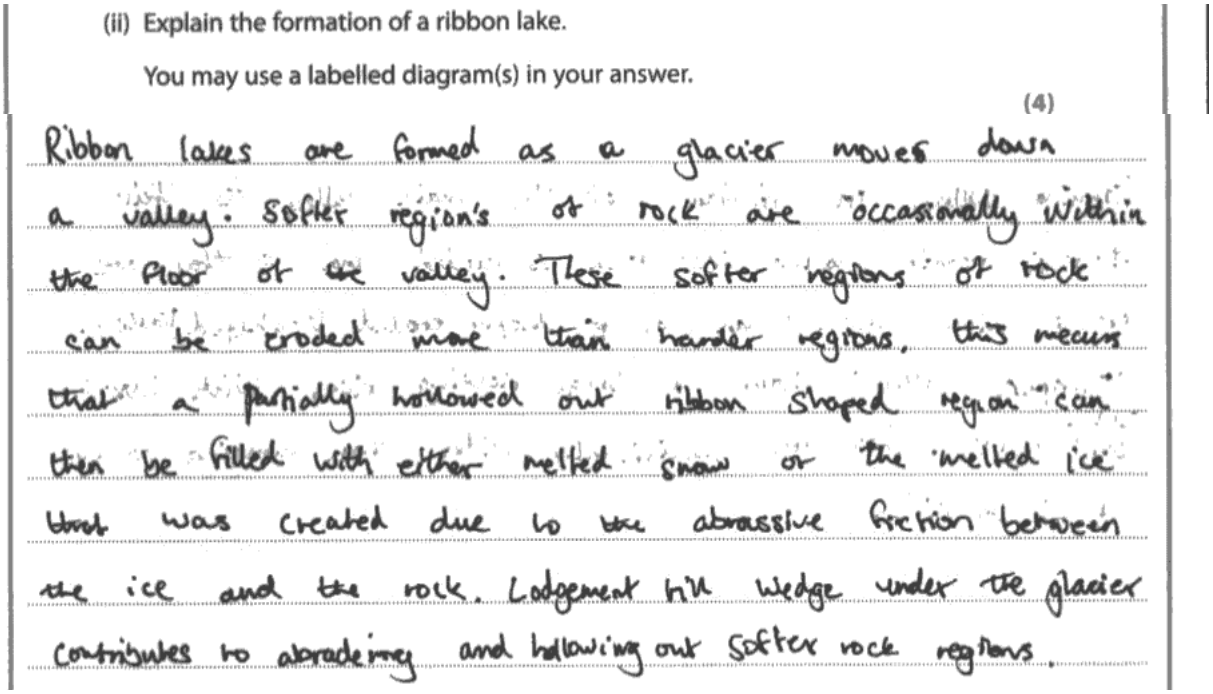
ResultsPlus
Examiner Tip

Use data wherever possible in a description question and do not explain!

Question 3 (b) (ii)

This question proved daunting to many candidates who lacked the knowledge to be able to give a detailed answer. Many responses focused on the movement of the glacier eroding the U-shaped valley and the over-deepening of the valley floor. However, few were able to develop their answers with sufficient depth to achieve full marks. Indeed this question returned the lowest mean mark for all landforms. Only a small minority of candidates understood alternative methods of formation such as the damming of the valley behind a terminal moraine or a recessional moraine. Diagrams were also poorly used, and often showed just a U-shaped valley with a mis-fit stream. It was clear that, to candidates, this is one of the more formidable landforms on the specification, particularly in comparison to corries, aretes and pyramidal peaks which were far better known.

This response scored 4 marks.



(ii) Explain the formation of a ribbon lake.

You may use a labelled diagram(s) in your answer.

(4)

Ribbon lakes are formed as a glacier moves down a valley. Softer region's of rock are occasionally within the floor of the valley. These softer regions of rock can be eroded more than harder regions, this means that a partially hollowed out ribbon shaped region can then be filled with either melted snow or the melted ice that was created due to the abrassive friction between the ice and the rock. Lodgement till wedge under the glacier contributes to abrading and hollowing out softer rock regions.

ResultsPlus
Examiner Comments

Although this candidate did not make use of a diagram, they gave a clear account of the formation of the ribbon lake and were able to add both explanation of the 'softer geology' and the abrading processes. This in the context of clear description allows the answer to reach 4 marks.

ResultsPlus
Examiner Tip

Ensure that you are able to use diagrams to aid your understanding and present them in a logical sequence showing the stages of formation. Learning landforms in this logical sequence, with the aid of clearly explained processes, will improve your answers.

Question 3 (c)

This question was well-answered with many candidates achieving 3-4 marks. Good answers had a clear focus on the use of glaciated landscapes with clear development of how people use the glacial region for that purpose and specific place examples rather than just names of countries, eg Italy. References to sheep farming in the upland areas of Snowdonia, or the Nant Francon valley were among a series of answers which helped candidates achieve full marks. Many candidates were very comfortable with the 'outline' command.

Question 3 (d) (i)

The vast majority of candidates were able to recognise the management methods as either snow fences or afforestation.

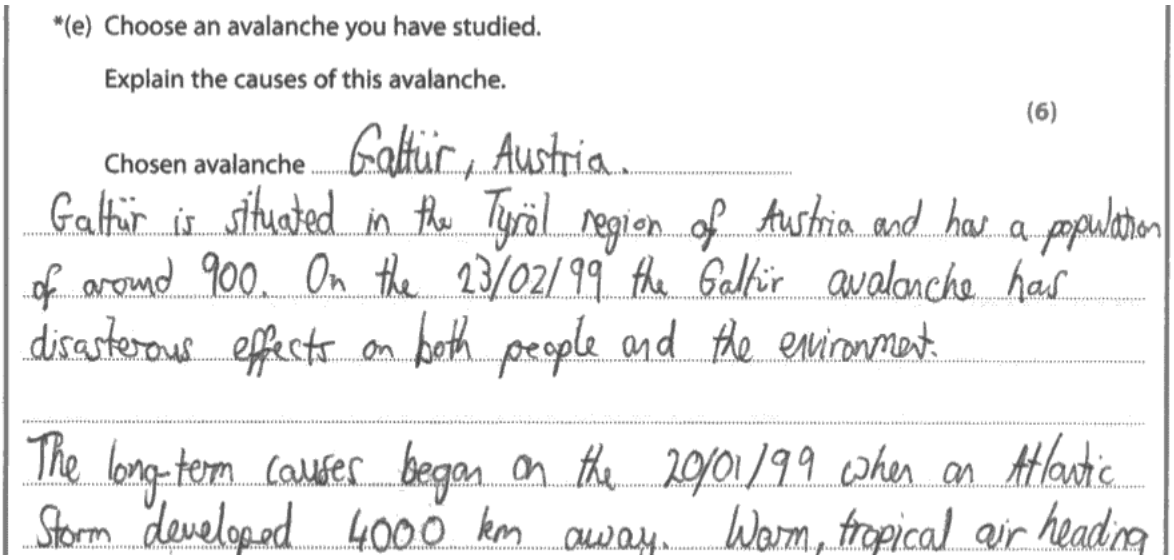
Question 3 (d) (ii)

As with the equivalent items in Questions 1 and 2 (more similar to the coastal question) candidates had very little trouble in scoring a series of descriptive points about their chosen method. However, they struggled to explain how the method reduced the effects of an avalanche. Therefore responses included slowing/holding the avalanche and reduction in energy, but failed to address the point about decreasing the amount of snow hitting downslope or reducing the impact on buildings or infrastructure. Some candidates also found it a little tricky to give two developed points on one method, often running out of steam after 3 marks were achieved. Candidates did however annotate well and linked their points very clearly to the part of the diagram in question.

Question 3 (e)

This question discriminated well, simply due to the fact that some candidates focused on causes while others were intent on writing about effects. As a result bi-polar results were seen with well-focused answers often reaching Level 3 marks. The Glatur case study was by far the best example used and many centres had taught the significance of the Atlantic storm, the snow drifts and the melt crust formation well. However, it was disappointing to see such a heavy reliance on the course text when there are other very good and more recent examples. It was good to see though that some candidates could write well on the recent avalanches in the Scottish highlands.

This response scored full marks.



*(e) Choose an avalanche you have studied.

Explain the causes of this avalanche.

(6)

Chosen avalanche Galtür, Austria.

Galtür is situated in the Tyrol region of Austria and has a population of around 900. On the 23/02/99 the Galtür avalanche has disasterous effects on both people and the environment.

The long-term causes began on the 20/01/99 when an Atlantic Storm developed 4000 km away. Warm, tropical air heading

north met with cooler air heading south to create a front. This frontal system headed across Europe and caused many relentless storms in February 1999. 4m of snow fell which was a new record. Furthermore winds blew at up to 100 km/h for 3 weeks. Powerful winds can move up to 20 tonnes of snow per hour and consequently, with lots of snow and high winds, there were huge accumulations of snow.

Every avalanche is due to a weak layer of snow which gives way. However, in this case the weak layer of snow didn't give way soon enough. Instead, it held on, allowing more snow to accumulate behind it, before finally giving way.

ResultsPlus
Examiner Comments

This candidate, using the Galtur example, has outstanding locational detail and a clear understanding of the process leading to the formation of the avalanche. A clear 6/6.

ResultsPlus
Examiner Tip

Although using core texts for case studies is a safe option, it would be nice to see newer case studies being used. Please ensure that candidates can clearly distinguish the concept of cause and effect, those that did scored highly.

Question 4 (a) (i)

Many candidates were able to recognise the correct answer as Taranaki. However, some did not carefully read the question and therefore gave answers which were active volcanoes not found on the west coast.

Question 4 (a) (ii)

Most candidates were able to recognise the conservative margin as the Alpine fault and the convergent margin as either Hikurangi or Puysegur boundaries.

Question 4 (b) (i)

As with the other corresponding items on Questions 1-3, this question hinged entirely on the candidates' understanding of the term 'description'. Many candidates wrote some clear explanations on hotspots, including some good geography but scored zero, whereas others who wrote simple answers focused on description scored 3. Higher scoring candidates achieved full marks with concise answers focusing on the volcano height, the number of cones and the extrusive products (steam and lava). Candidates should recognise that if they are repeating content in two questions (eg in this case hotspot formation), they have probably made a mistake somewhere.

This is an example of a response that scored full marks.

(b) Study Figure 4b.

It shows tectonic landforms on an ocean island.

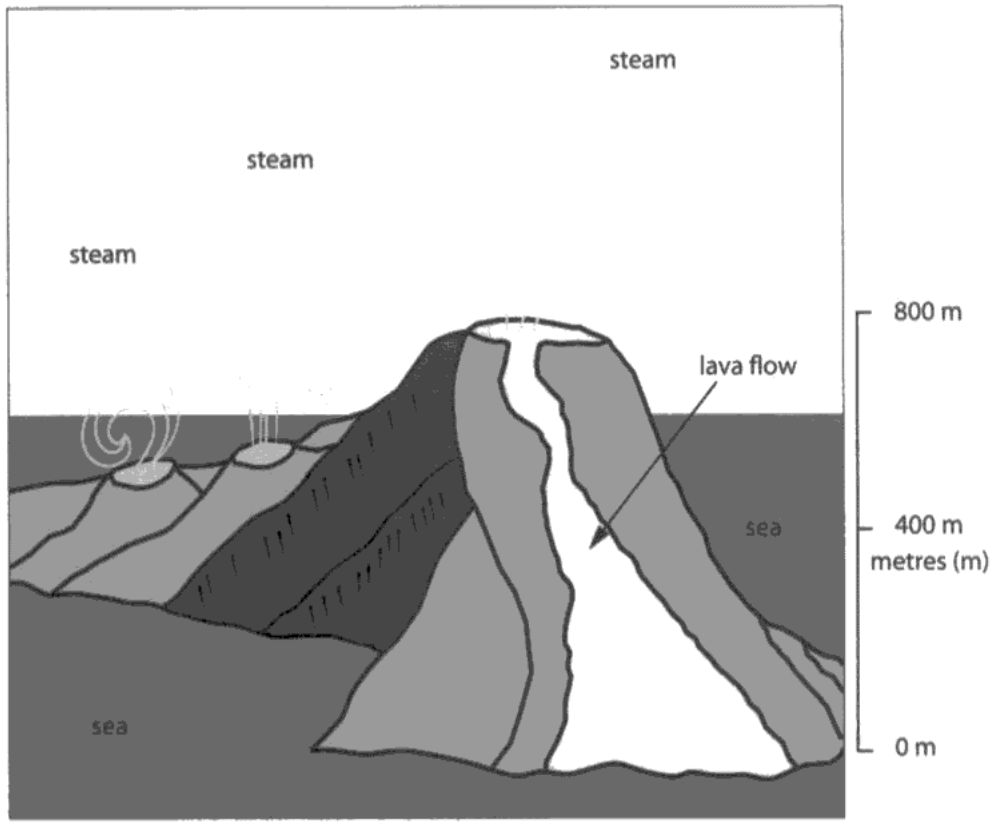


Figure 4b

(i) Describe the landforms shown in Figure 4b.

Use evidence from Figure 4b in your answer.

(3)

The landform shown is comprised of 3 main volcano structures, the largest of these is around 800metres above sea level with a lava flow and it also releases steam, the middle one is around 300metres above sea level whilst the smallest is only around 200 metres above sea level and they both release steam

ResultsPlus
Examiner Comments

This candidate scores full marks (3) in the first two sentences (after 3 lines). They clearly describe and use data to substantiate their descriptions.

ResultsPlus
Examiner Tip

Ensure candidates know the difference between 'describe' and 'explain'. Practise describing unseen images of landforms to improve understanding of both the term and the landform.

Question 4 (b) (ii)

The answers to this question fell into one of three camps, those who gave a generic formation of a volcano (is there such a thing?), those who believed all hotspots are found at either convergent or divergent plate boundaries and those who understood what a hotspot volcano is. Unfortunately it was a significant minority who fell into the third camp and as such this item returned the lowest mean out of all landform questions in Section A. On the positive side there were some excellent diagrams, though sometimes the direction of plate movement was a little confused. Good answers focused on a rising plume of magma from the mantle, creating a weakness in the crust through which magma was able to reach the surface. Some candidates were able to discuss the low density magma being the reason for this rise which was excellent. However, many answers were caught up on the concept of plate movement and erosion of cones once formed. It is clear either way that this is a landform that needs to be learned more carefully by candidates. Each type of volcano should be learnt in the context of a plate boundary and therefore there should be less confusion.

Question 4 (c)

Candidates generally performed well on this question and many reached 3 marks and were able to give an outline of at least one of their two economic reasons. Common answers referred to fertile soils and generating income from tourism or resource extraction. More generic answers, such as too poor to leave, often resulted in a descriptive answer and were self-limiting. Some candidates outlined their answers with examples, eg geothermal energy produces cheaper electricity sources, such as in Reykjavik where the energy source is used to heat pavements in winter. Even though this was not asked for it served as a method to outline.

Question 4 (d) (i)

Many candidates recognised this method for monitoring as a seismometer.

Question 4 (d) (ii)

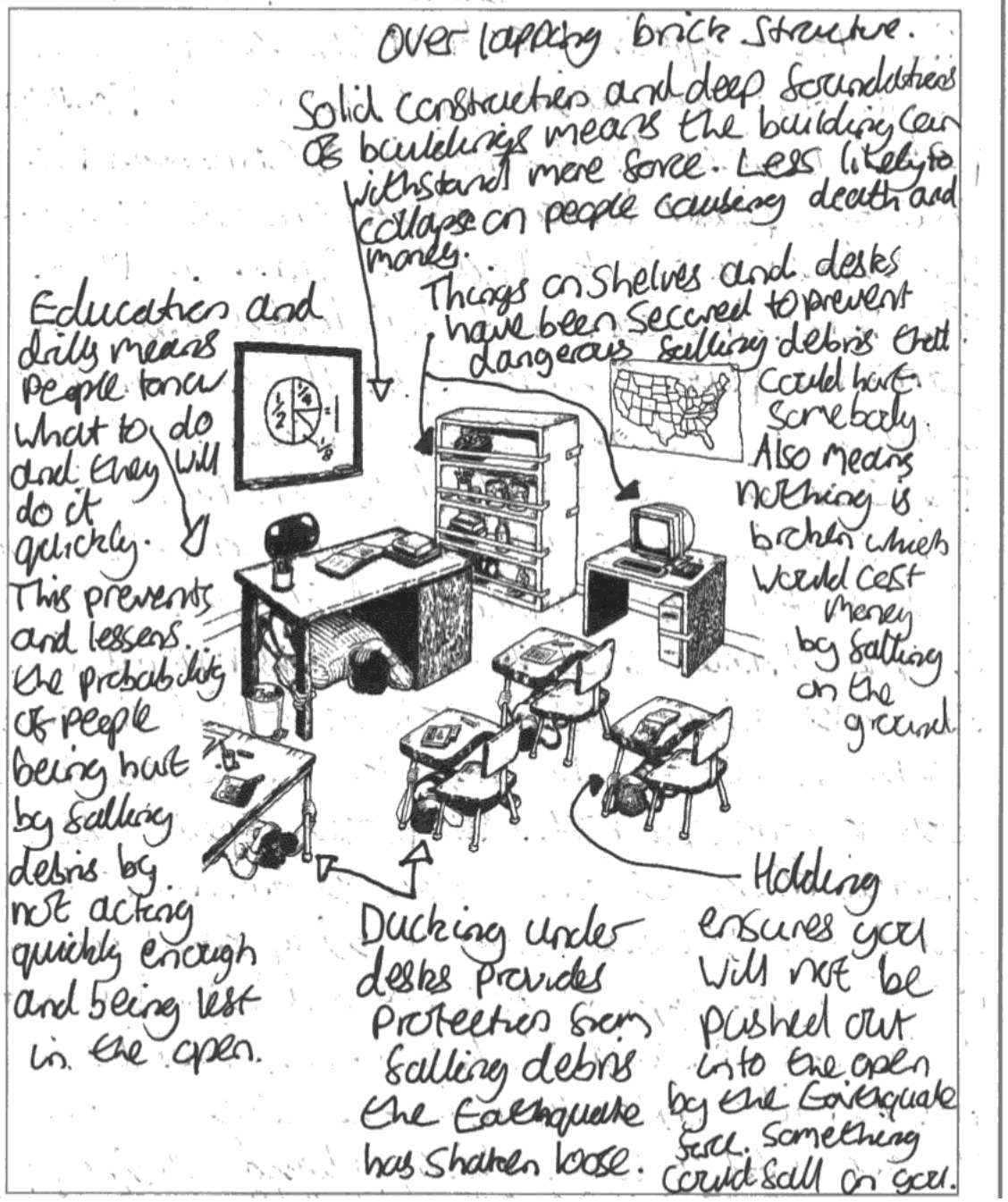
In comparison to the corresponding annotation questions in Questions 1-3 this was by far the best answered. Candidates were familiar with the concept of reducing earthquake effects through prevention and education and this was apparent in many candidates' responses, as they averaged over 3 marks for this question. Unlike in the other corresponding questions, many were able to explain how the management methods reduced the effects and thereby answered the question. Common responses were associated with the drills, the fastenings to shelves and the hiding under desks. Some candidates wrote about protection methods not shown in the diagram and were therefore self-limiting. Overall pleasing efforts were made and there was some good use of annotation.

This response scored full marks.

(ii) In the box below is a copy of Figure 4c2.

Annotate the image to explain how the effects of earthquakes can be reduced.

(4)



ResultsPlus
Examiner Comments

This candidate gives a comprehensive answer which easily scores 4 marks. Although some of the comments are about protection not shown in the sketch, all of the points that are relevant are clearly explained and linked to reducing effects. The annotations are also used well.

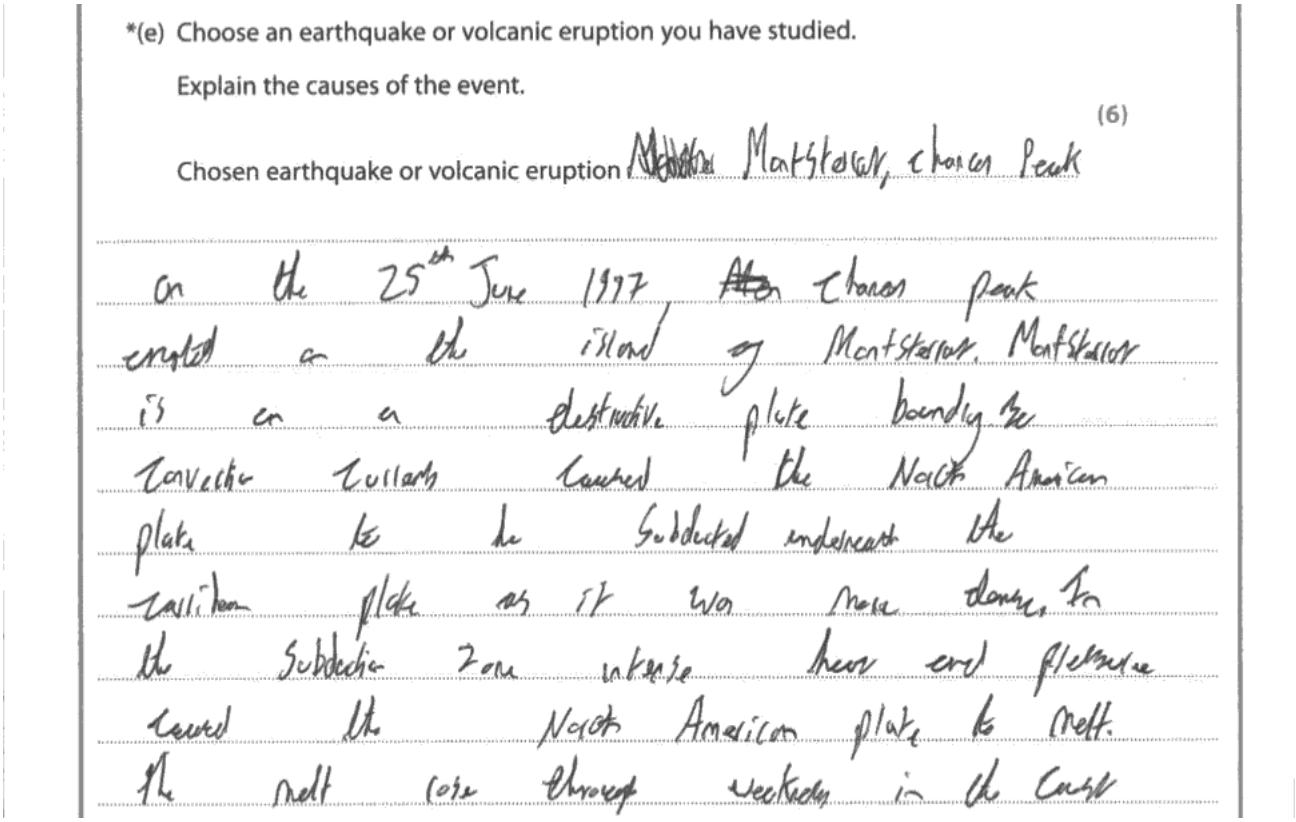
ResultsPlus
Examiner Tip

Practise annotating unseen resources (images) to help improve your understanding. Ensure that annotations clearly link to the point in question and that points have sufficient development to be considered explanation.

Question 4 (e)

The main issue with this question was the number of candidates who chose to write about causes rather than effects, resulting in this case study question producing the lowest average score for the Section A 6 mark questions. For those who opted to focus on causes, answers varied dependant on the example and the tectonic event chosen. Candidates who focused on earthquakes found it difficult to fully explain their formation, while those who concentrated on volcanoes were able to explain the subduction, magma rising, or in the case of Montserrat the explosive eruption and andesitic lava dome. Good examples included Haiti, Bam, San Francisco, Mt St Helens, Montserrat and Izmit. Higher scoring candidates tended to have excellent knowledge of plate names, boundary names and types and names of either fault lines or cones - often allowing a candidate to reach top Level 2 marks. A clearer focus on learning causes and effects separately may help candidates as opposed to learning the story of an event.

This is a response that scored all 6 marks.



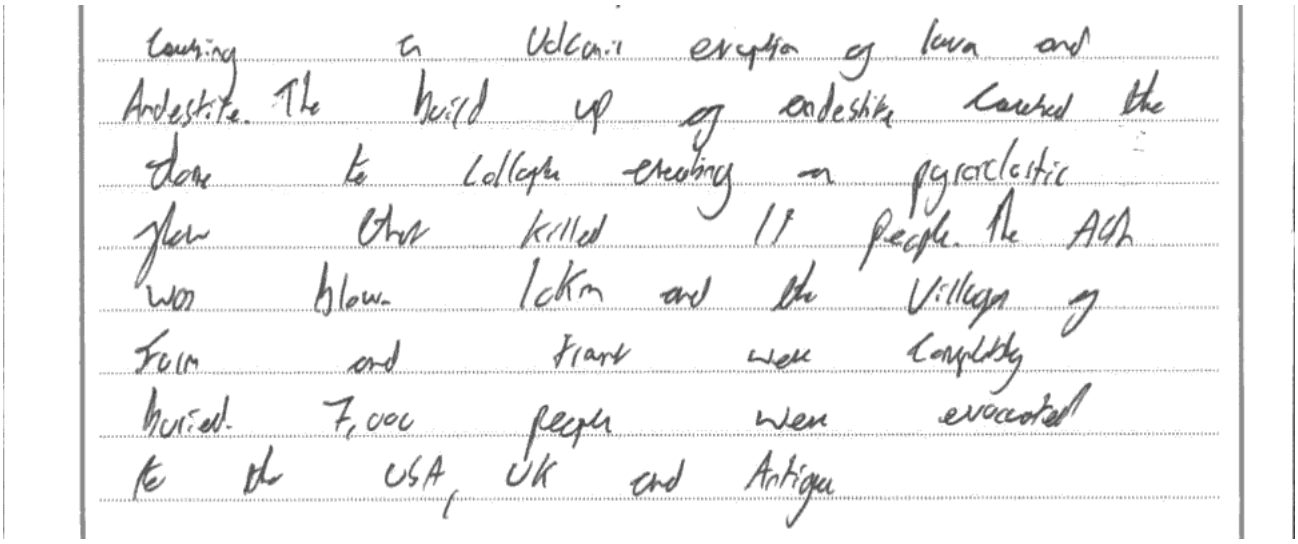
*(e) Choose an earthquake or volcanic eruption you have studied.

Explain the causes of the event.

(6)

Chosen earthquake or volcanic eruption ~~Mexico~~ Montserrat, Chances Peak

On the 25th June 1997, ~~Alton~~ Chances peak erupted on the island of Montserrat. Montserrat is on a destructive plate boundary. The convection currents caused the North American plate to be subducted underneath the Caribbean plate as it was more dense. As the subduction zone intense heat and pressure caused the North American plate to melt. The melt rose through weakness in the crust


Causing a Volcanic eruption of lava and Andesite. The build up of andesite caused the dome to collapse creating a pyroclastic flow that killed 11 people. The ash was blown 10km and the village of Farm and Plant were completely buried. 7,000 people were evacuated to the USA, UK and Antigua

ResultsPlus
Examiner Comments

This answer, scoring 6/6, had clear focus on the locational detail and good explanation of the various processes (subduction, melting and lava dome collapse) therefore enabling it to get to full marks.

ResultsPlus
Examiner Tip

Learn the effects and causes separately, then try and link the two together to understand the link one has to the other. At a basic level candidates must understand the command (eg cause) to avoid the loss of simple marks.

Question 5 (a) (i)

The majority of candidates scored 2 marks on this question and understood how to complete a stacked bar chart. However, many could improve their graphical skills by using a ruler!

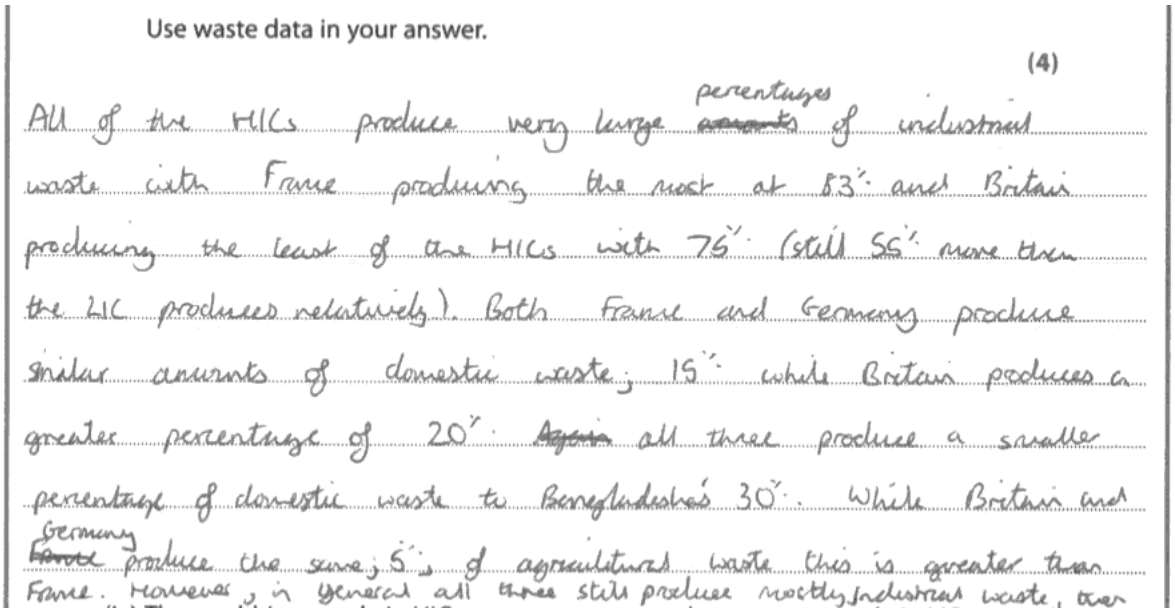
Question 5 (a) (ii)

Almost every candidate recognised Bangladesh as the LIC from the stacked bar chart.

Question 5 (a) (iii)

This question was well-answered by those who focused on the question and as such was a good discriminator. Many candidates overlooked the command to compare the HICs and instead chose to compare the HICs with Bangladesh (the LIC). As such the comparative statements between HICs and LICs were not credit worthy and therefore many of these candidates only achieved 2 marks. Those that followed the command often gained an easy 4 marks. However, some candidates simply compared through data use, eg France uses 83% industrial whereas Germany uses 80% and the UK 5%. Candidates needed to give comparative statements like more/less, the most/least to enable marks to be awarded.

This response gained all the available marks.



Use waste data in your answer.

(4)

All of the HICs produce very large percentages ~~amounts~~ of industrial waste with France producing the most at 83% and Britain producing the least of the HICs with 75% (still 55% more than the LIC produces relatively). Both France and Germany produce similar amounts of domestic waste; 15% while Britain produces a greater percentage of 20%. ~~Again~~ all three produce a smaller percentage of domestic waste to Bangladesh's 30%. While Britain and ~~France~~ Germany produce the same; 5% of agricultural waste this is greater than France. However, in general all three still produce mostly industrial waste, over

ResultsPlus
Examiner Comments

Even though this candidate dedicates one sentence to comparing the HICs with the LICs, the majority of the answer has comparative statements and as such gains full marks (4). Use of comparative terms such as greater, more or the most enables this response to quickly score the marks.

ResultsPlus
Examiner Tip

Ensure that you read the question carefully and that you use meaningful comparative statements in your answer.

Question 5 (a) (iv)

Candidates seemed familiar with the demand asked in this question, however most of the answers were descriptive and few were able to explain how people in HICs created more waste than those in LICs. The mirrored statement was another self-limiting factor as was repetition of the question - eg people in HICs create more waste as they have more money to buy goods, whereas people in LICs have less money and buy less goods - such answers were only awarded 1 mark. Good responses made reference to the issues of materialistic lifestyles and the fact that items are increasingly replaced rather than repaired (often due to the unavailability of spare parts), or the heavy packaging that is included with many types of products sold today. There were some interesting generic answers which were bordering on credit-worthy, eg people in LICs cannot read therefore do not buy newspapers. Although an open-ended question, it would be nice to see a move away from generalisations about people in either HICs or LICs.

Question 5 (b) (i)

The majority of candidates were able to rank the products' carbon footprints from highest to lowest. The main errors came from those who ranked them lowest to highest!

Question 5 (b) (ii)

The majority of candidates were able to calculate the carbon footprint for the two drinks as 500g of carbon dioxide. It was not necessary to include the g CO_2 to get the mark.

Question 5 (b) (iii)

Many were able to score at least 1 mark for their definition of carbon footprint. Candidates had to be able to make the link to emissions and impact on the environment therefore answers which simply stated 'the amount of carbon released from human activities' would only score 1 mark for the second part of the answer. Overall this definition was well understood by most.

Question 5 (b) (iv)

This question was well understood by most candidates who could describe their ideas clearly and offer some explanation. Common responses focused on domestic measures to reduce energy wastage, such as double glazing or insulation types, or switching lights off. However few candidates clearly developed how this reduced wastage. Some that did focused on the reduction in bills, or the efficiency of new boilers therefore requiring less energy input/ output or the idea that insulation retained heat leading to less need to turn on the heating. Some good answers also focused on the idea of reducing energy waste in transportation. Some candidates mis-understood the question and focused on alternative means of supply such as renewables which does not reduce wastage; it just produces it in an alternative fashion. Overall, the ability to clearly explain determined the extent of the mark here not the understanding of the concepts.

Question 5 (c)

The majority of candidates chose to focus their answer on the Germany case study and were able to produce some excellent answers. Candidates could apply their knowledge across different types of waste, domestic, nuclear and toxic, while recounting a series of statistics to back up their knowledge. Equally many candidates showed an ability to explain how the country manages their waste other than just describing it. Good explanations included the choice of landfill site, the need for nuclear storage abroad and the inability to process waste in Germany. Candidates who focused on just the UK found it difficult to give

answers other than on a local scale (eg recycling) and therefore were held at the top of Level 1 in the mark scheme. SPaG was generally well attempted with many candidates able to score 2 marks. Please encourage candidates to check their answers on SPaG questions and ensure that geographical terminology is spelt correctly.

This response scored 9 marks overall.

*(c) Choose an HIC you have studied.

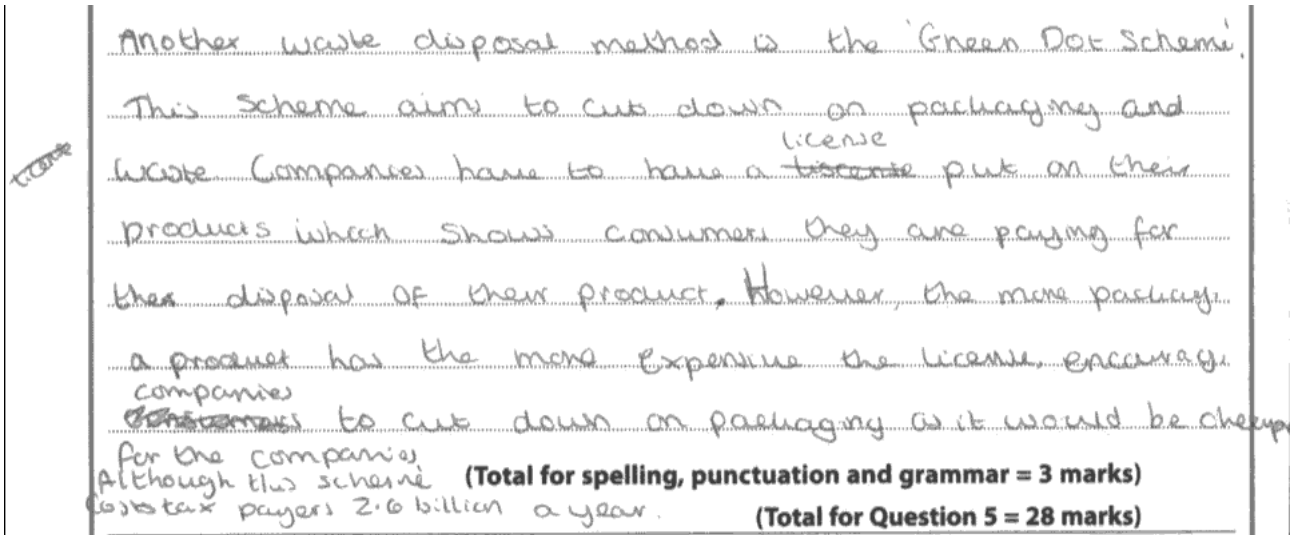
Explain how it disposes of different types of waste.

(6)

Chosen HIC Germany waste

Germany disposes of it's waste in many different ways. It uses landfill, incineration and recycling

There are 160 landfill sites in Germany, landfill is ~~they are~~ easy to use because there are already large holes left from quarrying which can be used. Waste has to be treated before it goes into landfill so that it doesn't produced toxic chemicals. For example at Luebeen 200,000 tonnes of waste are treated. Another waste method in Germany is incineration. There are 68 incinerators in Germany and they are used to burn waste. However they do release green house gas emissions when burnt. At Darmstadt in Germany 212,000 tonnes of waste are incinerated.



Another waste disposal method is the 'Green Dot Scheme'. This scheme aims to cut down on packaging and waste Companies have to have a license put on their products which shows consumers they are paying for their disposal of their product. However, the more packaging a product has the more expensive the license encourages companies to cut down on packaging as it would be cheap for the companies. Although this scheme costs tax payers 2.6 billion a year.

(Total for spelling, punctuation and grammar = 3 marks)

(Total for Question 5 = 28 marks)

ResultsPlus

Examiner Comments

This is a clear answer which easily scores 6 marks for the geography and 3 for SPaG. The candidate is able to describe in great detail using facts and figures in support. However, they are also able to explain the need for the landfill sites and the 'Grune Punkt' scheme and therefore score 6. The SPaG is also very well written and has minimal errors.

ResultsPlus

Examiner Tip

Practise testing candidates on SPaG in class and advise them to check and correct their answers so that they score well in these questions.

Use of facts (data and place names) really brings a case study to life - so try to apply this to all case studies where possible.

Question 6 (a) (i)

The majority of candidates scored 2 marks on this question and understood how to complete a stacked bar chart. However, many could improve their graphical skills by using a ruler!

Question 6 (a) (ii)

Almost all candidates answered Bangladesh as the correct LIC on the bar chart.

Question 6 (a) (iii)

This question was well-answered by candidates who had clear focus, however there were a significant minority who compared the HICs with Bangladesh. These candidates often only scored 1 or 2 marks, often for a general comment and data. Candidates who compared the HICs had most success when they used comparative words such as greater than, most/least, the highest/lowest, as well as the data. Candidates were able to compare the differences within a country, however most opted to compare the differences between the different HICs. Only a few candidates mis-interpreted the question and explained the data.

This is a 4 mark answer.

(iii) Describe the differences in water use between the HICs shown on Figure 6a.

Use percentage (%) data in your answer.

(4)

France uses the less in industry at 65% compared to the UK which uses 75% of it's water in industry, however France has the biggest percentage of domestic use at 25% compared to germany and UK at 20%. The UK has the lowest percentage of agricultural use at only 5% compared to france and germany both at 10%.

ResultsPlus
Examiner Comments

This candidate clearly describes and uses data throughout the answer to back up their descriptions. The use of comparative statements means that this candidate quickly achieves 4 marks.

ResultsPlus
Examiner Tip

When describing graphical information always use numerical data in support of your answer. When asked to describe the differences, as in this question, the use of comparative statements eg UK has greater industrial usage than France, enables candidates to access the marks more quickly.

Question 6 (a) (iv)

Candidates seemed familiar with the demand asked in this question, however most of the answers were descriptive and few were able to explain how people in HICs used more water than those in LICs. Many candidates were able to describe the different uses but few explained why the use was greater. Higher scoring candidates made links to the showering society concept, or the improved access to water. Candidates that repeated the question, ie water use is greater as people in HICs have more money - were often self-limiting as they were repeating the words in the question (which does not score credit). Mirror statements were also self-limiting as they simply repeat the same point but in the context of a LIC, therefore not scoring credit. Candidates need to devise some clear reasons and fully explore them with some explanation.

Question 6 (b) (i)

The vast majority of candidates were able to rank the water supply methods by cost from highest to lowest therefore scoring 1 mark. Some made the mistake of ranking in the opposite order.

Question 6 (b) (ii)

Many candidates were able to accurately calculate the cost of the high water usage at £10500. Although candidates were not required to use the £ sign, it is recommended as good practice. Below are two examples of answers. Candidates who did not score full marks often lacked the overall calculation, instead identifying the two correct water uses.

This response did not score any marks.

(ii) Calculate the cost of the **two** methods which produce a large amount of water on Figure 6b.

(1)

Providing clean spring water only costs £500 which is much cheaper than water piped down a slope which costs £10 000.

ResultsPlus
Examiner Comments

This candidate did not calculate the cost of the methods even though both methods were correctly identified, therefore zero marks were awarded.

This answer got the mark.

(ii) Calculate the cost of the **two** methods which produce a large amount of water on Figure 6b.

(1)

The two methods are providing clean spring water which is £500 and then water piped down a slope (gravity-fed water supply) which is £10,000. Together they are £10,500.

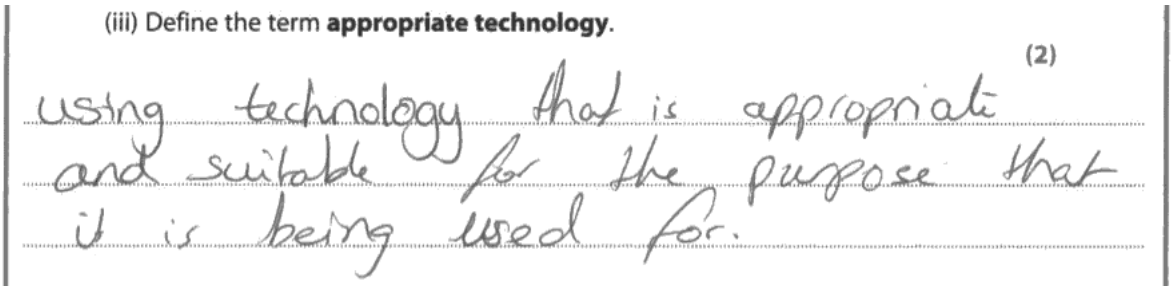
ResultsPlus
Examiner Comments

This is the correct answer.

Question 6 (b) (iii)

This question proved a little difficult for candidates (compared to the corresponding question on Waste). It would help candidates if they had a list of terms that are found in the specification that they could use in case a definition question arises. In this case, references to sustainability were often credit-worthy, or use by the community on a local-scale. Some candidates developed references to the locals' ability to maintain the technology with local resources or knowledge. Others used an example to develop their answer.

No marks were awarded for this response.


(iii) Define the term **appropriate technology**.

(2)

using technology that is appropriate and suitable for the purpose that it is being used for.

ResultsPlus
Examiner Comments

This candidate uses the words in the question to try and fashion an answer. Unfortunately in this case the comment made is not quite specific enough for credit.

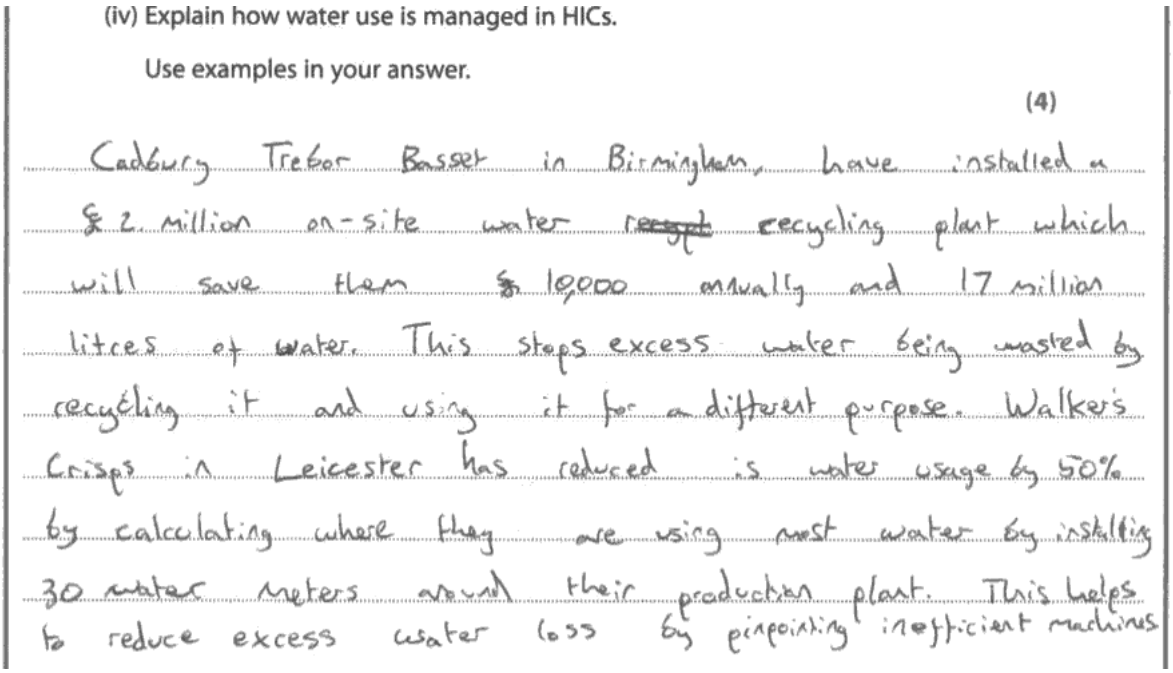
ResultsPlus
Examiner Tip

When learning definitions consider that in a 2 mark question there could be two parts to it. Think about, in this case, who may use it, or why it is used, as part of the definition.

Question 6 (b) (iv)

This question was generally well-attempted by candidates. Many candidates could easily describe (for 2 marks) different methods of water management including various domestic approaches, approaches in industry or in agriculture. Higher scoring candidates were able to use an example to focus the answer which often helped in the explanation, with common cases of the Cadburys and the Walkers Crisps factory being used. There were also some particularly good explanations of drip irrigation used to manage water. Some candidates confused the concept of water supply and water management and therefore scored zero for references to dams, aquifers and reservoirs. Others, who struggled, focused their answer on management in LICs eg appropriate technology, but these were a small minority.

This response scored 4 marks.



(iv) Explain how water use is managed in HICs.

Use examples in your answer.

(4)

Cadbury Trefor Basset in Birmingham, have installed a £2 million on-site water ~~recept~~ recycling plant which will save them £10,000 annually and 17 million litres of water. This stops excess water being wasted by recycling it and using it for a different purpose. Walker's Crisps in Leicester has reduced is water usage by 50% by calculating where they are using most water by installing 30 water meters around their production plant. This helps to reduce excess water loss by pinpointing inefficient machines

ResultsPlus
Examiner Comments

This candidate focused their answer on the two common case studies used by most candidates, and was able to explain a point from each to access full marks (4). Although both points were similar, stopping use of excess water, they were explained in the context of the particular example and therefore this answer just reached full marks. The use of an example here gave the answer clear focus.

ResultsPlus
Examiner Tip

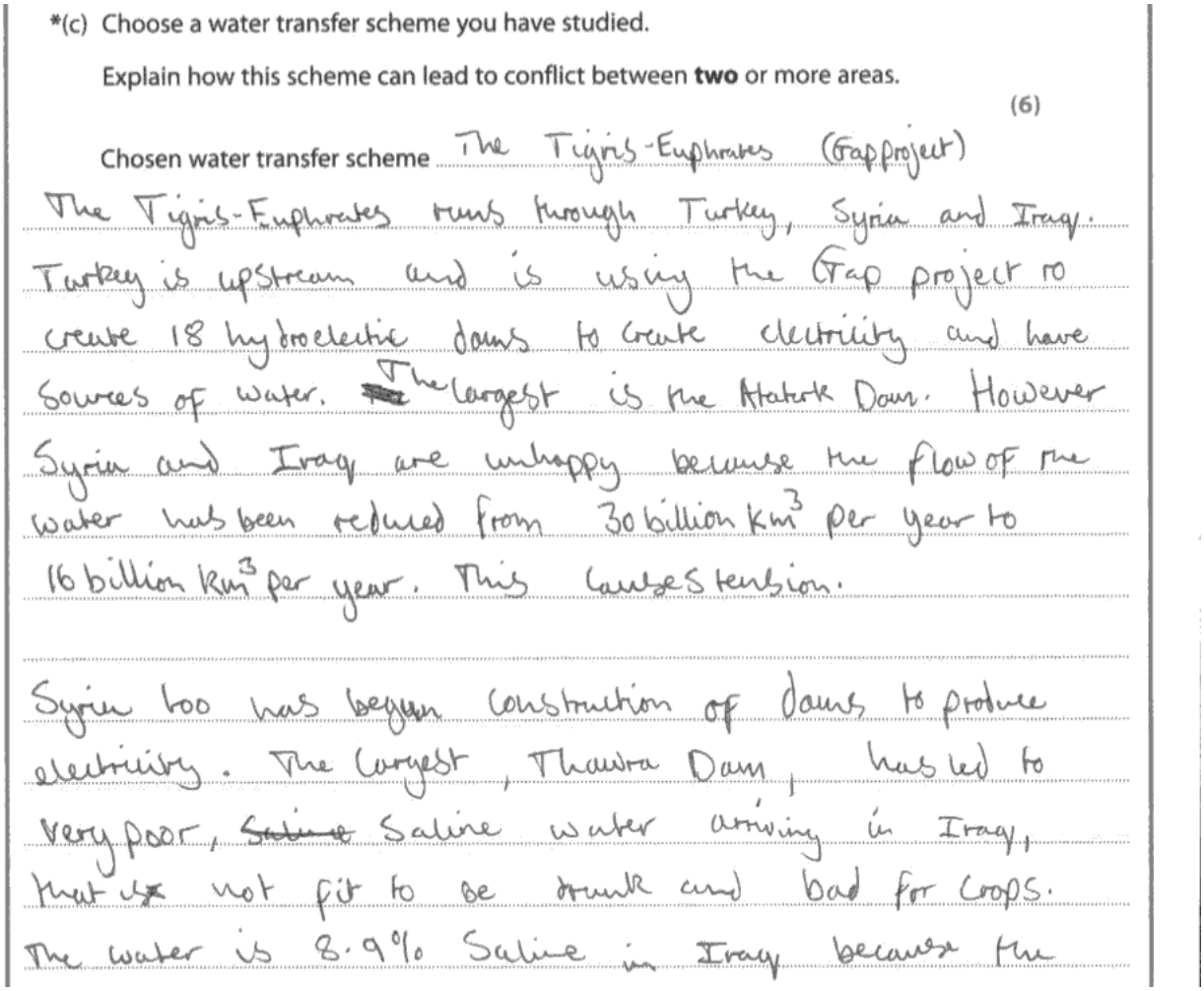
Ensure that you have a range of uses when learning about managing waste, eg both domestic and industrial, then focus on developing and explaining a point from each. Use of an example always helps. Focusing on how water is managed in your local area can make it easier to remember.

Question 6 (c)

As on Question 5(c) this question produced a range of good answers with the focus case study mainly either the GAP project on the Tigris and Euphrates or the system of damming the Colorado river. Good detail of the schemes often enabled candidates to reach top Level 2 marks, however the discriminator was whether the cause and outcome of the conflict were developed enough to enable them to reach the top of Level 3. With the use of some examples the conflict was not always clear, or the focus of the conflict was on different people rather than areas. Answers which focused on the effects of water management, eg the Three Gorges Dam, were often held at the top of Level 1 as they had little reference to conflict. Candidates who had the correct focus were able to recite impressive levels of locational detail, though some added the conflict regarding the water transfer as an afterthought. Overall the performance on this question was significantly improved compared to past efforts.

SPaG averaged around 2 marks for this question and it was evident that some centres had practised this with candidates, as they were able to spell geographical terminology well and construct meaningful sentences.

This response scored 8 out of the 9 available marks.



*(c) Choose a water transfer scheme you have studied.

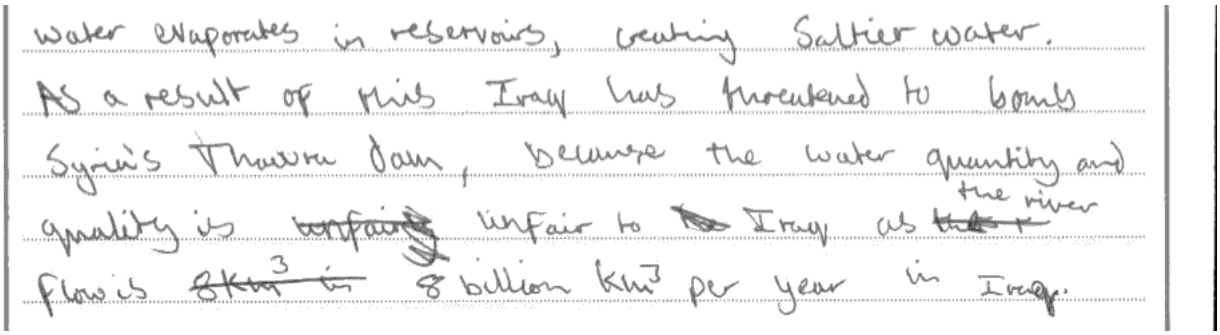
Explain how this scheme can lead to conflict between **two** or more areas.

(6)

Chosen water transfer scheme The Tigris-Euphrates (Gap project)

The Tigris-Euphrates runs through Turkey, Syria and Iraq. Turkey is upstream and is using the Gap project to create 18 hydroelectric dams to create electricity and have sources of water. The largest is the Ataturk Dam. However Syria and Iraq are unhappy because the flow of the water has been reduced from 30 billion km^3 per year to 16 billion km^3 per year. This causes tension.

Syria too has begun construction of dams to produce electricity. The largest, Thawra Dam, has led to very poor, ~~Saline~~ Saline water arriving in Iraq, that is not fit to be drunk and bad for crops. The water is 8.9% Saline in Iraq because the



ResultsPlus
Examiner Comments

This response scores 6/6 for the geography and 2/3 for the SPaG. The example has clear focus on the water transfer scheme in the first main paragraph and uses excellent locational detail. In the second paragraph the causes and outcomes of conflict are well-established and explained. Many answers on the GAP project were able to access Level 3 marks.

ResultsPlus
Examiner Tip

Ensure that your water transfer scheme has clear conflicts between two areas, not just groups of people in the same area. Conflict does not have to be fighting; it can just be a dispute. For an alternative to the GAP project there are good examples of water transfer issues in the UK, for example the Elan Valley project.

Candidates are encouraged to practise answering extended answer questions with SPaG so they improve answer quality and also to check their work.

Paper Summary

It was pleasing to see a slight overall improvement in candidate performance in comparison to previous series. Based on their performance on this paper, candidates are offered the following advice:

• Understand the difference between describe and explain when asked to focus on landforms.

• When asked to explain please ensure that you are able to develop your point beyond detailed description.

• Practise different graphical techniques (eg choropleth maps, stacked bars, line graphs and pie charts) so that you are familiar with them.

• Practise the 6-mark questions under timed conditions to practise spelling, punctuation and grammar.

• When asked for examples, ensure that you give more than just a place name, and try to consolidate your answer with numerical or specific locational detail where possible.

• On case study questions ensure you understand and follow the command eg there is a difference between cause and effect.

It is always pleasing to see candidates make improvements from previous series, which shows that centres/candidates are acting on the advice given in previous examiners' reports. Congratulations to all candidates for their efforts in this examination.

We look forward to welcoming you to the June 2014 linear Unit 2 exam.

Grade Boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:

http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx

Pearson Education Limited. Registered company number 872828
with its registered office at Edinburgh Gate, Harlow, Essex CM20 2JE