



Pearson

# **International GCSE (9-1) Geography**

**Paper 1 and Paper 2**

**Examiner marked student exemplars  
with commentaries**

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## **Introduction**

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This guide has been created using sample student responses to the 2017 International GCSE (9-1) Geography sample assessment materials.

The answers and examiner commentaries in this guide can be used to show the expected standards in the International GCSE (9-1) Geography assessment. The guide will focus on a variety of questions from Paper 1 Sections A and B and Paper 2 Section A and includes guidance on the skills students will be expected to demonstrate in particular question types. We will be publishing additional exemplars for Paper 2 Sections B and C.

It should be noted that students have done these responses at school, rather than under formal exam test conditions, although the mark scheme has been applied in the same way as it would be in a live assessment. Therefore, the commentaries and scores should be representative, as much as is possible, of live-paper marking.

The exam shows a wide range of question types, generally ramping in demand and difficulty within each question. This applies to both Paper 1 and Paper 2.

The emphasis on interpreting geographical information (through the use of a wide range of resources) should not be underestimated, especially compared to the legacy specification. Also important is the role of Assessment Objectives and how these determine the skills that students will need to demonstrate in particular question types. Please see our [Getting Started guide](#) for more information.

This document should be used alongside other International GCSE (9-1) Geography teaching and learning materials available on the [Pearson qualifications website](#).

## Paper 1: The Physical Environment - Section A

### Example 1 – Question 1 (c)

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

Suggest **two** factors that have led to the river regime shown on Figure 1a.

(4)

Guidance:

Whenever a question starts with the pre-amble 'Study Figure...' students must refer to the resource to achieve the AO3 marks.

The following resource relates to Question 1.

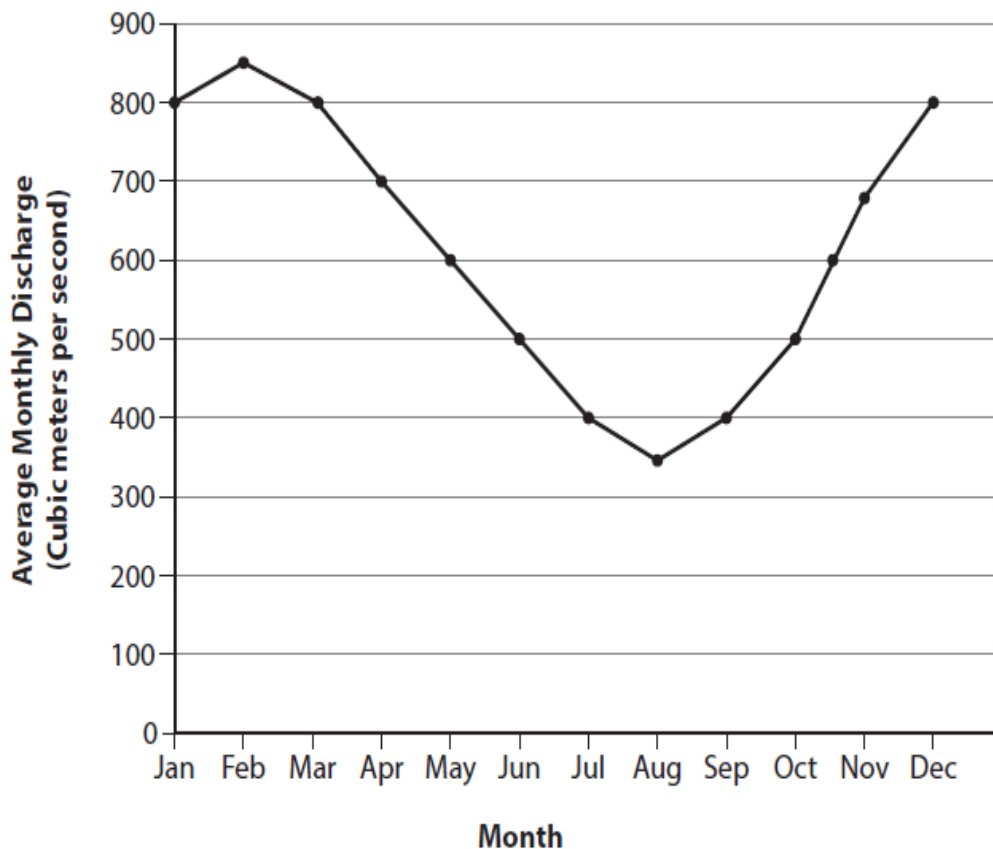


Figure 1a

River regime of the River Sever in England

## Mark scheme

Question number	Answer	Mark
1(c)	<p><b>A02 (2 marks)/A03 (2 marks)</b></p> <p>Award 1 mark (A02) for a factor that may have led to this river regime and a further 1 mark (A03) for its impact on the river regime shown on Figure 1a, up to a maximum of 2 marks each.</p> <ul style="list-style-type: none"> <li>Discharge is much lower in the period May/June to October as rainfall is normally lower than at other times of the year (1). This means that there will be less surface run-off into the river (1).</li> <li>Discharge is much lower in the period May/June to October because there might be higher temperatures (1). This means that more of the water in the river is evaporated (1).</li> <li>Discharge is higher in the period November to April because there might be less vegetation growing in the area at that time of year (1). This reduces the amount of interception (1).</li> </ul> <p>Accept any other appropriate response.</p>	(4)

## Student answers to 1 (c)

- (4)
- 1 Precipitation because in January and February there was clearly a lot of rainfall compared to the summer months where there wasn't much rainfall.
  - 2 Soil Saturation because there is more rain the soil is more saturated of causing more run-off.

**Examiner's comments:**

This response was given 2 marks.

This candidate has given two factors (A02), but has not referred to the resource and river discharge in their response so is not awarded the A03 marks.

- 1 A variation of rainfall throughout the months. The more rainfall per month a more discharge and vice versa. April to October had smaller discharge so less rainfall.
- 2 A variation in temperature increasing evaporation when it is warmer. This removes water from it store and back into the atmosphere therefore less water is in a river channel. Colder months such as February have a high discharge which warmer months such as July have a smaller discharge.

**Examiner's comments:**

This response was given 4 marks.

April to October small discharge (1) less rainfall (1)

Variation in temperature increasing evaporation (1) warmer months such as July have a smaller discharge (1)

The second part of their answer takes a different approach, would expect resource to give you the reason and then the development on the river regime.

- 1 <sup>Amount ~~per~~ of rainfall</sup> Decrease in ~~river discharge~~ <sup>(4)</sup> around March to Aug as there ~~is~~ would be less water going into the river meaning less discharge.
2. Hotter temperatures during summer means increase in Evaporation. ~~this can lead to less water in the river~~ <sup>this can lead</sup> to less water in the river meaning a decrease in discharge during April to August.

**Examiner's comments:**

This response was given 4 marks.

First part of the answer gives rainfall as a factor (1) and then gives an impact on the river regime (1).

Second part of the answer gives temperature as a factor leading to increased evaporation (1) which will lead to a decrease in river discharge between April to August (1).

## Example 2 - Question 1 (g)

(g) Study Figures 1c and 1d in the Resource Booklet.

Analyse the differences in the hydrographs for rivers P, Q and R.

(8)

Guidance:

Analyse – this requires students in the case of this question, to break down the diagrams into component parts and then to make evidence – based connections as to the processes and the interrelationships between them. Evidence based might mean extracting data, or analysing differences steepness of rising and recessionary limbs between the three rivers in the case of the hydrograph. There are 4 marks for AO3 and 4 marks for AO4 available for this response.

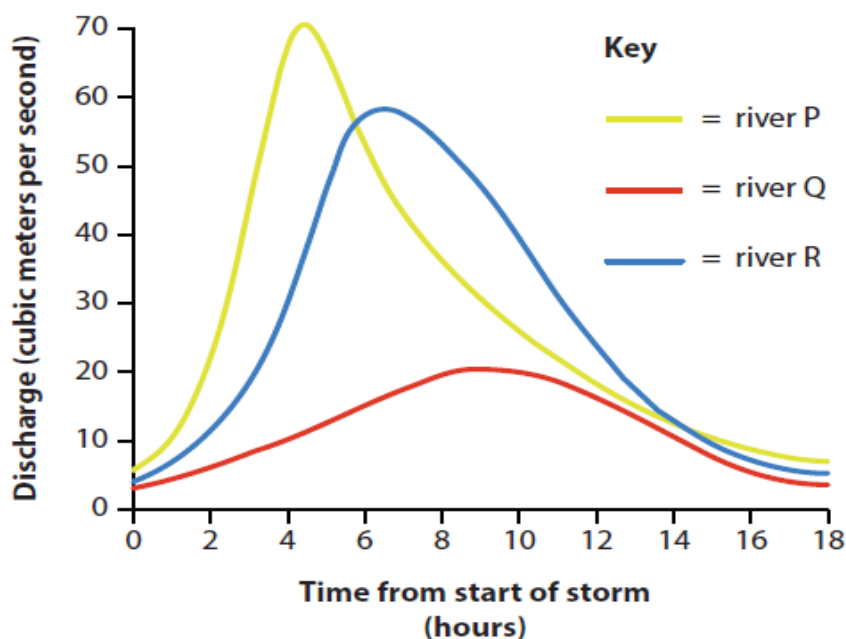


Figure 1c

Hydrograph for river P, river Q and river R

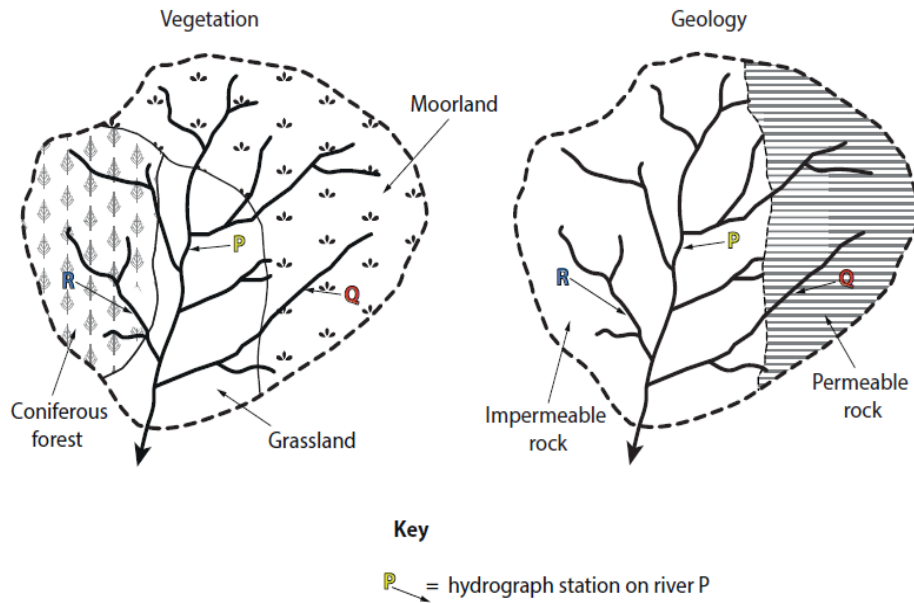


Figure 1d

Types of vegetation and geology in the drainage basin of river P, river Q and river R

## Mark scheme

Question number	Answer
1(g)	<p style="text-align: center;"><b>A03 (4 marks)/A04 (4 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b></p> <p>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include the following.</p> <p><b>A03</b></p> <ul style="list-style-type: none"> <li>• Different types of geology have different effects on the rates of infiltration and run-off into a river following a rainfall event.</li> <li>• Permeable rocks and soils (such as limestone) absorb water/allow water to pass through easily, so surface run-off is rare because a greater amount of infiltration takes place.</li> <li>• Impermeable rock and soils (such as shales) are more closely packed. Rainwater cannot infiltrate so water reaches the river more quickly via surface run-off/overland flow.</li> <li>• In rural areas, land use can affect infiltration rates and, therefore, the hydrograph for a river.</li> <li>• Areas of woodland and forest will have higher interception rates than areas of arable or pastoral farming. This increased interception will increase the time it takes for the rainfall to reach the river, increasing lag times and reducing the steepness of the rising and receding limbs on a hydrograph.</li> <li>• Areas of little vegetation or deforestation will mean that there is less interception and the rain reaches the ground faster. The ground is likely to become saturated and surface run-off will increase.</li> </ul>



<p><b>A04</b></p> <ul style="list-style-type: none"> <li>Figure 1d shows that river Q is located in an area of permeable rock. Also, Figure 1c shows that it has a larger lag time and a low peak discharge of just over 20 cumecs.</li> <li>Figure 1d shows that rivers P and R are on impermeable rock. This is supported by the steep rising limbs and shorter lag times for these rivers in Figure 1c.</li> <li>Figure 1d shows that rivers P and R are located in areas of the same geology (impermeable rock), but the two rivers are located in areas of different vegetation.</li> <li>As river P has the 'flashier' hydrograph (Figure 1c), it is concluded that in this area, geology is having a greater impact on a river's discharge compared to types of vegetation.</li> </ul>		
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> <li>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)</li> <li>Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (AO4)</li> </ul>
Level 2	4-6	<ul style="list-style-type: none"> <li>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)</li> <li>Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)</li> </ul>
Level 3	7-8	<ul style="list-style-type: none"> <li>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)</li> <li>Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)</li> </ul>

Student answers to 1 (g)

River P has a very short lag time of 4 hours, ~~a very steep rising and falling limbs and a~~ peak discharge of  $70 \text{ m}^3/\text{sec}$  whereas river R has a lag time of 6-7 hours and Q is 9 hours this is because River Q is in an area of permeable rock meaning that a lot of the water seeps into the rock instead of going into the river whereas both R and P are in an impermeable rock area so the water drains straight into the river. P has the highest peak discharge of  $70 \text{ m}^3/\text{sec}$  because it has the largest area of rivers flowing through it so it has the highest volume of water. R only has slightly less because what P is in moorland which will soak up a lot of the water. Q has the smallest because it only has one stream running through it.

**Examiner's comments:**

This response was given 6 marks.

This response demonstrate specific elements of AO4 and they have used all the resources available (AO4). This is strong example of a Level 2 response.

The candidate talks about rock type but doesn't develop the argument to include other factors. They also talk about the size of the catchment, but they don't talk about grassland and forest. To move into Level 3 the candidate should use more evidence from the resource and provide connections between the resource and hydrological processes.

A succinct response such as this may not provide a full enough picture and take all the different factors into consideration e.g. 'both R and P are in an impermeable rock area so the water drains straight into the river'. The candidate has not considered the implications of the vegetation and forest type on these hydrographs.

River P has a very short lag time and a very high peak discharge of  $70 \text{ m}^3/\text{s}$ . Its normal discharge is around  $5 \text{ m}^3/\text{s}$ . This is because river P is surrounded by grassland. Grass does not have big roots so cannot suck up lots of water. Grass is not very good at interception. This all adds up to more water running off. River P is also on impermeable rock so the water cannot infiltrate into the rocks and be stored in ground water stores. This increases surface run-off decreasing time for the water to reach the river.

River Q has a longer lag time of 7h and a peak discharge of  $60 \text{ m}^3/\text{s}$  and a normal discharge of  $5 \text{ m}^3/\text{s}$ . This is because River Q lies on more land. More land is already wet and so cannot absorb much more water as the ground is already saturated. This increases surface run-off. However it is on permeable rock so water can infiltrate to ground water stores, decreasing the surface run-off. The impermeable rock comprising just the wetland through Q is between P and R.

River R has a peak discharge of  $20 \text{ m}^3/\text{s}$ . It is very infrequent with a long lag time of 9h. This is because R is in coniferous forest. The trees intercept the water not letting get to the ground and they absorb a lot of water that has infiltrated/get to the ground by its big roots. It is on impermeable ground so the discharge should be higher but the trees intercept most of the water.

(Total for Question 1 = 25 marks)



### Examiner's comments:

This response was given 8 marks.

The candidate uses good terminology throughout.

They have linked together the resources with their analysis and they offer a comparison of the three rivers. This is a balanced and well developed argument as they have analysed the differences between all three hydrographs, using evidence (AO3). The candidate has used geographical skills to obtain accurate information that supports their argument (AO4). This response provides logical connections between concepts, for example 'River Q lies on already wet land and cannot absorb much more water as the ground is already saturated. This increases surface run off. However, it is on permeable rock so water can move to groundwater stores, decreasing surface run-off.'

(8)

so more water as other rivers flow into it

River P is the trunk of the river, is on grassland and impermeable rock. The impermeable rock increases surface run-off and causes the hydrograph for River P to be flashy as the lag time is only 4 hours. The peak discharge is very high  $70 \text{ m}^3/\text{s}$  due to the rapid surface run-off. The grassland also allows surface run-off better than forest or woodland as it is less permeable.

River R has a hydrograph with lag time of 7 hours, more than P but less than Q. The peak discharge is  $57 \text{ m}^3/\text{s}$ . It is ~~not~~ not a flashy hydrograph like P, but not as non-flashy as Q. This is because <sup>it is a tributary</sup> the confluence point

allows ~~more~~ more absorption of surface run-off due to vegetation.  
 Although the rock is impermeable the surface flow is  
 less than P so the discharge is low and lag time is longer.  
 River Q is a non-flashy hydrograph with a  
 lag time of 9 hours and peak discharge of  $20 \text{ cm}^3/\text{s}$ .  
~~Also~~ The lag time is the longest of the  
 rivers while the peak discharge is the lowest. This  
 is because it is a tributary ~~river~~ in the basin with  
 permeable rock which allows for absorption of  
 surface run off and it is on woodland which doesn't  
 allow for rapid surface flow. (Total for Question 1 = 25 marks)  
~~There is~~

#### Examiner's comments:

This response was given 8 marks.

The response shows a different approach to obtaining 8 marks. The candidate has used geographical skills to obtain accurate information that supports the argument (AO4). This response is precise in interpreting the resource, uses technical language, and provides an analysis of the resource. This response isn't as strong on providing logical connections between concepts (AO3) as the previous response, however it fulfills enough of the criteria to achieve Level 3 and the full 8 marks.

## Example 3 - Question 3 (e)

(e) Explain one impact of a volcanic eruption.

(3)

### Mark scheme

Question number	Answer	Mark
3(e)	<p><b>A02 (3 marks)</b></p> <p>Award 1 mark for identification of an impact and 2 marks for development through further explanation, up to a maximum of 3 marks.</p> <ul style="list-style-type: none"> <li>• People can be killed by pyroclastic flows (1) as they travel so fast that people cannot outrun them (1) and so they are burnt to death or choke to death (1).</li> <li>• Pyroclastic flows damage/destroy buildings, roads, crops, stock (animals) and woods (1), which could lead to the long-term evacuation of an area (1) and, therefore, to a decline in the local economy (1).</li> <li>• Mudflows (lahars) often cause a lot of damage to the environment (1) as a result of the boulders/logs carried within them crushing everything in their path (1). People caught in the path of a lahar have a high risk of death from severe crush injuries, drowning or asphyxiation (1).</li> <li>• Lava flows burn or bury everything they come across (1). They may also start fires, which are a lot more dangerous for the environment around the volcano (1), and kill more people than the lava flow itself (1).</li> <li>• Ash falls can cause houses and buildings to collapse (1). People and animals may die due to a lack of oxygen (1). Huge problems are created for the aviation industry (1).</li> </ul> <p>Accept any other appropriate response.</p>	(3)

### Student answers to 3 (e)

(3)

Many people being left homeless or killed as the lava flow <sup>and ash clouds</sup> from the pipe travels extremely quickly and can potentially turn down houses, or leaving people homeless or, if people do not evacuate in time, it can kill them.



**Examiner's comments:**

This response was given 2 marks.

Lava flow damages property leaving people homeless (1) people do not evacuate in time, it can kill them (1).

Ash clouds. Ash clouds are released from volcanic eruptions and travel extremely quickly and so end up blowing over a large amount of land. Ash clouds are so hot they they destroy everything that they blow over including buildings, people, cars. They destroy everything on the rivers and lakes that they blow over.

**Examiner's comments:**

This response was given 2 marks.

Ash clouds travel extremely quickly (1) destroy buildings people cars (1).

An impact of volcanic eruption is that flights get cancelled because the ash can get in the engines and cause the plane to go down. Also the ash causes low visibility to the pilot creating dangerous flying conditions.

**Examiner's comments:**

This response was given 3 marks.

Volcanic eruption causes ash (1) flights get cancelled because ash can get in the engines and cause the plane to go down (1) causes low visibility creating dangerous flying conditions (1). These were accepted as linked ideas (one impact).

One impact of a volcanic eruption is the damage of the ash and pyroclastic flow. In 1995 Mount Meru, Soufriere Hills volcano the ash covered  $\frac{2}{3}$  of the island. Moreover in 2010 Eyjafjallajökull erupted, spewing ash 11,000 metres high which stopped European airspace for over a week and caused 1,000 flights to be cancelled, a \$2bn loss to the aviation industry. The ash covers the land near the volcano, killing livestock and if breathed in can cause respiratory problems. But it does make the soil fertile due to minerals.

**Examiner's comments:**

This response was given 3 marks.

This student needs to be encouraged to think about how much they need to write as they have written too much in terms of the question. In these types of questions there is limited opportunity to write about a case study, unless it helps directly in the development of an explanation. This candidate has however, managed to link their knowledge to the question focus.












## Example 4 - Question 3 (h)

(h) Study Figure 3c in the Resource Booklet.

Analyse the differences between these three earthquakes.

(8)

	China	Italy	Haiti
			
	12 May 2008	6 April 2009	12 Jan 2010
<b>Magnitude</b>	<b>7.9</b>	<b>6.3</b>	<b>7.0</b>
<b>Amplitude</b>	Each step in magnitude = 10 times increase in amplitude (amount ground moves)		
			
<b>Deaths</b>	87 476	295	230 000
<b>Gross Domestic Product (GDP) per person, 2014</b>	\$7 590	\$35 223	\$824
<b>Short term impacts of earthquake</b>			
			
	China	Italy	Haiti

(Source for China Image: © Andy Wong/AP/Press Association Images)  
(Source for Italy Image: © Marco Di Lauro/Stringer)

**Figure 3c**

**Information about three different earthquakes**

## Mark scheme

Question number	Answer
3(h)	<p style="text-align: center;"><b>AO3 (4 marks)/AO4 (4 marks)</b></p> <p><b>Marking instructions</b> Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b> The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include the following.</p> <p><b>AO3</b></p> <ul style="list-style-type: none"> <li>Some countries in the world that experience earthquakes have a high level of economic development so can afford to spend more money on improving the country's infrastructure, e.g. earthquake-proof buildings, warning systems and rescue services, than countries at a lower level of development.</li> <li>Countries that, with effective warning systems, rescue services, medical services, education systems and building design, tend to have less damage from an earthquake.</li> <li>Countries that are less economically developed cannot afford to spend as much money to protect themselves from earthquakes, so it is likely that these areas will have a higher death toll, even if the magnitude</li> </ul>
	<ul style="list-style-type: none"> <li>More-developed countries can afford to spend money on prediction methods, such as GPS satellite (when data is sent from satellites to computers with information such as plate movement and changes in the earth's surface). In the developing world, communication systems may be underdeveloped, so the population may not be well educated about what to do in the event of an earthquake.</li> <li>Construction standards tend to be poorer in less-developed countries. Homes and other buildings suffer serious direct damage when the disaster occurs. Buildings collapsing result in high death tolls. Evacuation and other emergency plans are also difficult to put into action due to limited funds and insufficient resources. Clearing up can be difficult. There may not be enough money to rebuild homes quickly and safely, which leads to many people being forced to live in emergency housing or refugee camps – which can increase the death toll.</li> </ul> <p><b>AO4</b></p> <ul style="list-style-type: none"> <li>Figure 3c shows that the earthquake in China had a much larger magnitude (7.9) compared with Haiti (7.0). Italy's earthquake had the smallest magnitude (6.3) and the lowest number of deaths (295). This suggests that there might be a relationship between magnitude and deaths.</li> <li>Figure 3c shows that, despite having a smaller magnitude than China, the earthquake in Haiti led to the largest number of deaths (230 000) – more than double that experienced in China (87 476).</li> <li>Figure 3c shows that Italy's earthquake had both the smallest amplitude and magnitude, whereas China had both the largest amplitude and magnitude.</li> <li>Figure 3c shows many collapsed buildings, with almost total devastation in Haiti and China as a result of the earthquakes. On the other hand, the photograph for Italy does show some buildings still standing and rescue services on the scene, which may explain the smaller number of deaths in that region.</li> <li>Figure 3c shows that Italy has the highest GDP per capita, which could be used to explain why it had so few deaths from the earthquake. China has a higher GDP per capita than Haiti, which might explain why, despite a large earthquake, there were fewer deaths.</li> </ul>

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> <li>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)</li> <li>Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (AO4)</li> </ul>
Level 2	4-6	<ul style="list-style-type: none"> <li>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)</li> <li>Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)</li> </ul>
Level 3	7-8	<ul style="list-style-type: none"> <li>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)</li> <li>Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)</li> </ul>

### Student answers to 3 (h)

From the figure C we can see that the earthquake with the largest magnitude (China) had the worst effects as all of the buildings have been turned into rubble ~~whereas~~ apart from one building in the middle of the picture which is still standing. This is due to good infrastructure whereas in Haiti the building infrastructure was extremely poor due to 'cut' corners which is the reason why \$81 billion worth of damage was caused. Italy had the least damage caused as it had the lowest magnitude and lowest amplitude. From the graph table we can see that China had the biggest amplitude and Italy had the smallest, however Haiti still had the largest amount of deaths. This was all because of very poor infrastructure ('cut' corners), whereas in China it was much better.



**Examiner's comments:**

This response was given 3 marks.

The candidate doesn't refer to information in the table in order to apply understanding and provide evidence for their argument. £81 billion of damage is not information from the table and isn't accurate if it is referring to the Haiti 2010 earthquake. The candidate doesn't say what this means i.e. lack of building regulations or poor building materials.

The China earthquake on 12<sup>th</sup> May 2008 was 7.9 on the Richter scale, the most powerful earthquake of the three five. The amplitude of the quake was larger than Italy and Haiti quake. However there were 87,476 deaths, less than Haiti but more than Italy. China is a MIC and developing country, therefore its GDP is \$7590, less than the MIC Italy (\$35223) but more than Haiti \$824. Short term impact was that many buildings were destroyed.

The Italy earthquake of 2009 was 6.3 on Richter Scale, the lowest ~~one~~ out of the 3 examples. The amplitude was also the lowest ~~also~~.

There were only 295 deaths due to the fault. Italy is a MIC as the GDP is \$35223. The short term impact was the destruction of infrastructure and buildings.

The Haiti earthquake of 2010 was 7.0 on Richter scale. It had an amplitude more than Italy but less than China. However due to the fact that Haiti is a LC with a

GDP of \$824 the death toll was high with 230 000 deaths. The short term impacts were more devastating than China or Italy as aid took long time to arrive and come, took long time out. Buildings + infrastructure were destroyed and people buried in ruins of houses.

(Total for Question 3 = 25 marks)

TOTAL FOR SECTION A = 50 MARKS

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN

**Examiner's comments:**

This response was given 5 marks.

The candidate uses geographical skills to obtain accurate information that supports some aspects of the argument (AO4). There is limited interpretation of evidence, except for GDP.

This response however is imbalanced and tends to focus on GDP (AO3). The candidate hasn't considered what GDP might lead to such as building regulations, rescue services, preparation and response.

All three earthquakes happened in a close period of time recently making the data more reliable as technology today is better. Haiti had a magnitude of 7.0 but had the most deaths. This is because Haiti is an LIC, therefore it has no earthquake proof buildings and education on them. This resulted in the death of 230,000 people. However wealthier countries such as China are better prepared and can withstand larger earthquakes. China had an earthquake of 7.9 this caused 84,779. In a picture you can see a building still standing this is because they had enough money to invest into earthquake proof buildings. The higher the GDP the less deaths but the more damage in the terms of money. Italy is an HIC with an GDP of \$3523. This means they have more money to spend on infrastructure which can help save lives, however the earthquakes are more costly as it is very expensive to rebuild all the high quality infrastructure. China is an MIC and had 84,776 deaths and Haiti as LIC had the most deaths. Wealthier countries also have better responses and have plans in place. In a map for Italy you can see rescue workers but in the other two you cannot there are no plans and so the response is too late to save people from the rubble. The higher the population density the more deaths. In a image for Italy you can see a high population density so more deaths as more people. (Total for Question 3 = 25 marks)

close to lots of buildings. In China the population density where the earthquake took place was lower therefore there were less deaths.

**TOTAL FOR SECTION A = 50 MARKS**

**Examiner's comments:**

This response was given 8 marks.

The candidate provides a balanced and well developed argument that is coherent and makes judgements that are supported by evidence e.g. "The higher the GDP the less deaths but the more damage in terms of money" and "Whilst wealthier countries have better responses and have plans in place" (AO3).

## Section B: Geographical Enquiry

### Example 5 - Question 4 (b)

(b) Study Figure 4c in the Resource Booklet. It shows information about the sampling strategy used in the collection of river data.

Explain **one** advantage and **one** disadvantage of using this sampling strategy.

(4)

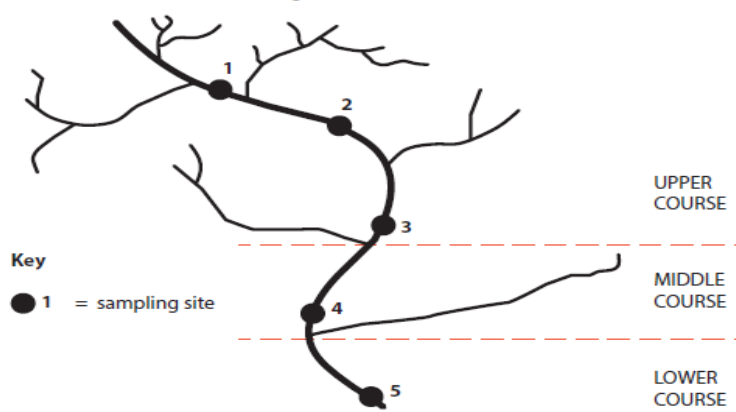


Figure 4c

Sampling strategy used by students to collect river data

### Mark scheme

Question number	Answer	Mark
4(b)	<p><b>AO3 (4 marks)</b></p> <p>Award 1 mark for an advantage of systematic sampling and a further 1 mark for an explanation of this advantage, up to a maximum of 2 marks.</p> <p>Award 1 mark for a disadvantage of systematic sampling and a further 1 mark for an explanation of this disadvantage, up to a maximum of 2 marks.</p> <p>Advantages:</p> <ul style="list-style-type: none"> <li>it is more straightforward than random sampling (1) as a random sampling grid doesn't necessarily have to be used as sampling, it just has to be at uniform intervals (1)</li> <li>sampling sites are an equal distance apart along the stretch of the river (1), which means that good coverage of the river can be more easily achieved than using random sampling (1)</li> <li>sample sites are an equal distance apart (1), which ensures that no part of the river is under- or over-sampled (1).</li> </ul>	



	<p>Disadvantages:</p> <ul style="list-style-type: none"> <li>• this systematic sampling strategy is more biased than random sampling (1) as not all parts of the river have an equal chance of being selected (1)</li> <li>• this systematic sampling strategy doesn't use existing information (1), which means that it might lead to under- or over-representation of a particular pattern (1)</li> <li>• significant changes along the river might be missed (1), which might skew the results/give a slightly biased representation (1).</li> </ul> <p>Accept any other appropriate response.</p>	(4)
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### Student answers to 4 (b)

Chosen sampling strategy  
*test the purity of the water*

Advantage  
*Easy to do*

Disadvantage  
*constantly changing so it is not very helpful*

### Examiner's comments:

This response was not awarded any marks.

The response 'Easy to do' is too simplistic and is not worthy of credit. This point needs to be explained.



Chosen sampling strategy

To sample at regular intervals in course of river.

Advantage

~~It is~~ You can see the change of a river's data in regular points down the river as they are evenly spaced out.

Disadvantage

There are 3 sites in the upper course because it is longer than the middle and lower course which only have 1 sample each. Not a balanced set of results for all 3 courses of river.

**Examiner's comments:**

This response was given 1 mark.

The candidate makes the point: 'regular points down the river as they are evenly spaced out'. The response needs to include an explanation of why this is an advantage for the additional mark.

Chosen sample strategy

Systematic sampling

Advantage

Systematic sampling is far easier than random sampling because the sample sites are spaced out equally along the river. This means that it is possible to get better coverage than just sampling randomly.

Disadvantage

As the systematic samples are located at specific points it could be possible to miss changes along the river. This could mean that the results are not accurate.

**Examiner's comments:**

This response was given 4 marks.

The candidate identifies a point for each of the advantage and disadvantage and then continues to expand the response further.

## Example 6 - Question 4 (c)

You have studied a river channel as part of your own geographical enquiry.

(c) Evaluate the accuracy of your conclusions.

(8)

Guidance:

Evaluate – this requires students to provide a substantiated judgment including a brief conclusion. Describe or explain will never be used for these 8 mark fieldwork questions. There are 4 marks for A03 and 4 marks for A04 available for this response as it is linked to fieldwork. For Level 3 it is going to be important that the candidate shows understanding of the “how” and “why” associated with the different parts of fieldwork enquiry.

Question number	Answer
4(c)	<p style="text-align: center;"><b>A03 (4 marks)/A04 (4 marks)</b></p> <p><b>Marking instructions</b> Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b> The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include the following.</p> <p><b>A03</b></p> <ul style="list-style-type: none"> <li>• Accuracy is about making judgements about how close conclusions are to the actual changes occurring in the river environment where the fieldwork was carried out.</li> <li>• Accuracy of conclusions will be most likely linked to evaluation of the data collection methods.</li> <li>• Recognition of the extent to which there were equipment errors, e.g. faulty or uncalibrated equipment, and/or operator errors, e.g. misinterpreting the data being recorded, and how this might have affected the accuracy of the results.</li> <li>• Recognition of whether there were issues with the design of the data collection and/or sampling methodologies, which may be flawed in terms of the location/number of sites (spatial), the time of year (temporal), or the equipment chosen.</li> <li>• A supported judgement is reached about the accuracy of conclusions, drawing on evidence such as strengths, weaknesses, alternatives and relevant data.</li> </ul> <p><b>Do not credit responses that make reference to how far the conclusions can be trusted (validity of conclusions) or the extent to which the investigation can be repeated to obtain the same results/conclusions (reliability).</b></p> <p><b>A04</b></p> <ul style="list-style-type: none"> <li>• There is evidence of using different skills and techniques to measure changes in a river channel.</li> <li>• There is evidence of using different skills and techniques to analyse data and reach conclusions about changes occurring in a river channel.</li> <li>• There is evidence of using different skills and techniques to evaluate conclusions about changes occurring in a river channel.</li> <li>• There is evidence of own fieldwork conclusions, i.e. reference to field data collected by the student.</li> </ul>

Level	Mark	Descriptor
	0	No rewardable material.
<b>Level 1</b>	<b>1–3</b>	<ul style="list-style-type: none"> <li>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)</li> <li>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)</li> </ul>
<b>Level 2</b>	<b>4–6</b>	<ul style="list-style-type: none"> <li>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)</li> <li>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)</li> </ul>
<b>Level 3</b>	<b>7–8</b>	<ul style="list-style-type: none"> <li>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)</li> <li>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)</li> </ul>

### Student answers to 4 (c)

I believe that the conclusions I reached as part of my river study were partially accurate. When we did the result we followed a systematic method of collecting the data for river velocity this means that we had accurate results that we could draw conclusions from. However, we only sampled the data at one time during the day and at one time of the year. This could mean that the data was anomalous and so any conclusions we reached could also be anomalous.

We thought that our conclusions would be more accurate if we measured the river velocity and discharge at different times of the year.

**Examiner's comments:**

This response was given 3 marks.

The candidate has begun to apply some understanding of how systematic data collection can give accurate results. They have also begun to identify some limiting factors – although this has not really been developed as fully as it could have been (AO3). Some use has been made of geographical terminology (AO4), although it is limited. The answer could have been improved by more explicit reference to how the data made conclusions anomalous for instance.

During our river study we reached a number of conclusions about the river channel. Firstly, we reached the conclusion that the width of the river increases as you move away from the source of the river. I am very confident in the accuracy of this conclusion as we collected data systematically at equal distances through the river profile. The data collection method enabled us to measure with a tape measure across the river from point to point. Our group made this as accurate as possible by using the same people to do the measuring and recording. This was a strength of our data collection technique.

The second conclusion we reached was that the depth of the river increases as we moved from the source to the mouth. These results were very accurate because we used a systematic method of sampling and measured at 5 different points across the width of the river.

The third conclusion was that the gradient of the river decreased as we moved closer to the mouth of the river. I believe that this conclusion was very accurate as not only did the fieldwork technique and equipment we used prove the hypothesis it was clearly evident from a visual inspection that as we moved down the river profile that the gradient was decreasing.

**Examiner's comments:**

This response was given 6 marks.

The candidate has given a balanced argument in the evaluation of the accuracy of their conclusions. More than one logical connection is made between the accuracy of the conclusions and the data collection method used. There is a clear understanding of the role of human error in accuracy (AO4).

There is generally clear use of geographical skills and terminology (AO4). The methods used to collect data are outlined with clarity. The candidate has also begun to explore how results could be made more accurate overall (AO3).

To get into Level 3 the response needs more detail around what they did and how that linked to what they found, all linked to accuracy.

## Paper 2: The Human Environment - Section A

### Example 1 - Question 1 (c)

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

Explain **one** factor that could have influenced the location of the car manufacturing factory shown in Figure 1a.

(2)

Guidance:

When you see 'Study Figure...' you must use the resource in your response. This is demonstrating AO3 by interpreting the resource.



(Source: © A.P.S. (UK) / Alamy Stock Photo)

**Figure 1a**

**Car manufacturing in the UK**

#### Mark scheme

Question number	Answer	Mark
1(c)	<p><b>AO2 (1 mark)/AO3 (1 mark)</b></p> <p>Award 1 mark for a basic locational factor evident from the photograph (AO3) and a further 1 mark for extension through explanation (AO2), up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> <li>• Flat land (1), which is easy to build the factory on (1).</li> <li>• Near to housing (estates) (1) for workers/customers (1).</li> <li>• Near (main) road (1) for access/providing good transport links (1).</li> <li>• Large area (of open space) (1) for further expansion (1).</li> </ul> <p>Accept any other appropriate response.</p>	(2)



**Student answers to 1 (c)**

The government could've given incentives for it to be built there like subsidies, tax relief or an abundant amount of unemployed people.

**Examiner's comments:**

This response was not given any marks.

This response presents us with a reason why the factory may have been built in this location, but there is no evidence in the resource of government incentives for building.

There is a lot of space around meaning it doesn't get disrupted.

**Examiner's comments:**

This response was given 1 mark.

The candidate has correctly interpreted that there is a lot of space in the photograph so is awarded 1 mark for AO3, but the reason isn't specific enough to gain the second mark for AO2. The reasoning must be related to factors that influence the location of factories.

The factor that could have influenced the location of the car factory is room for expansion. There are large amounts of undeveloped forest and pasture next to factory so company could expand if demand increases.

**Examiner's comments:**

This response was given 2 marks.

AO3 and AO2 targeted by this question so the response must use direct evidence from the Figure 1a. "Large area of open space" (AO3 interpreting the resource), "this means there is room to expand" (AO2 demonstrating understanding).

## Example 2 - Question 1 (f)

- (f) For a named developed country, explain **two** ways that energy resources are being managed in a sustainable way.

(4)

**Guidance:**

Questions that use the 'Explain' command word target AO2 (demonstrating understanding) and therefore marks will not be awarded for simply stating a management method, marks will only be awarded for providing an explanation of how the management methods is sustainable.

### Mark scheme

Question number	Answer	Mark
1(f)	<p style="text-align: center;"><b>AO2 (4 marks)</b></p> <p>Award 1 mark for initial explanation of a sustainable management response and an additional 1 mark for development through further explanation or exemplification. Maximum of 2 marks when no named developed country is used in context.</p> <p>Different countries and examples could be chosen, based on either increasing production, switching to using 'greener' approaches, or reducing demand, e.g. with policies and incentives.</p> <ul style="list-style-type: none"> <li>In the UK, the government has been working with EDF to encourage more nuclear power stations, e.g. Hinkley Point (Somerset) (1). This risky project will, however, reduce the country's total carbon emissions, therefore creating greener electricity (1).</li> <li>Canada and the USA have become much more energy self-sufficient through the use of government policies to encourage HEP (1). This is a cleaner technology that doesn't rely on harmful fossil fuel combustion (1).</li> <li>In Spain, the government has recently encouraged all new buildings to have better insulation for hot summer temperatures (1), therefore reducing electricity demand for electric A/C in the summer (1).</li> </ul> <p>Accept any other appropriate response.</p>	(4)

**Student answers to 1 (f)**

Named developed country UK

1 In the UK they are very strict on environmental laws which means that it is difficult to build on.

2 The governments are offering grants for people to use renewable energy which in turn will cut down on the use of non renewable energy.

**Examiner's comments:**

This response was given 2 marks.

The first part of this response was not given any marks because strict environmental laws are not specific enough and may not have any link to energy.

The second part of the response gives a clear explanation with development. Offering grants for renewable energy (1 mark) which will cut down the use of non-renewable (1 mark).

Named developed country UK

1 The UK have built offshore wind farms that allow them to have a sustainable source of energy via wind.

2 The UK have also heavily taxed oil and petrol unless it is necessary for your work (farmers) in order to keep the use of these fuels lower.



**Examiner's comments:**

This response was given 3 marks.

In both parts of this response the candidate has provided a partial explanation rather than a developed explanation. They need to link their comment to sustainability, but this first part was given 1 mark. The second part of this response has enough development to achieve the second mark.

- (f) For a named developed country, explain **two** ways that energy resources are being managed in a sustainable way.

(4)

Named developed country Ireland

1 Geothermal energy is used for electricity and to heat water. Despite it giving off gas it is a highly effective form of renewable energy.

2 HEP is used high up in the mountains as there is a lot of water. This is forced down to create electricity. As a result of these two renewable sources Ireland is almost carbon neutral.

**Examiner's comments:**

This response was given 3 marks.

The first part of this response gives an example and an initial reason, but it doesn't develop the explanation by linking the point about renewable energy to sustainability.

The second part of this response is awarded 1 mark for using the example of HEP and a further 1 mark for linking HEP and other renewable sources to carbon emissions, which is an expansion of the first point.

## Example 3 – Question 1 (g)

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

Analyse the reasons for the past and predicted changes in energy demand.

(8)

Guidance: Analyse  
Investigate an issue by breaking it down into individual components and making logical, evidence-based connections about the causes and effects or interrelationships between the components.

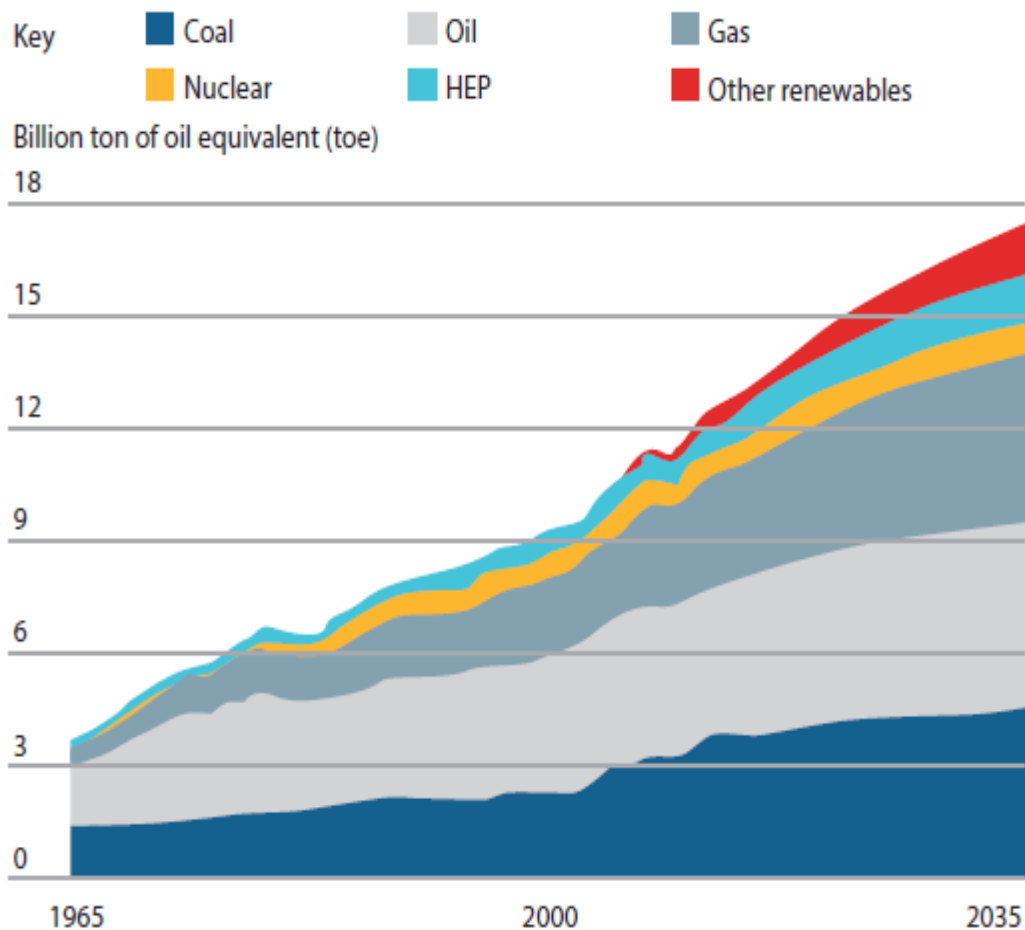


Figure 1c

Past and predicted changes in energy demand, 1965–2035

## Mark scheme

Question number	Indicative content
1(g)	<p style="text-align: center;"><b>AO3 (4 marks)/AO4 (4 marks)</b></p> <p><b>Marking instructions</b> Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b> The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include the following.</p> <p><b>AO3</b></p> <ul style="list-style-type: none"> <li>• Different fuel types have become more important as attitudes and policies have changed since 1965, both locally and regionally, as well as internationally.</li> <li>• In the future, coal, gas and oil will still dominate (all fossil fuels) but renewables and hydro will become more significant. Changes in affordability and the price of technology may be responsible for this.</li> <li>• Nuclear energy in 2035 will have the least use, as power stations are so expensive and alternatives will be cheaper. There will also be variations in the reliance on other sources.</li> <li>• The changes in demand will match the development and globalisation of countries, with increasingly wealthy economies/societies needing more power and fuel for transport.</li> <li>• Gas shows the biggest relative increase to its starting point as it is a cleaner source of energy and can be easily transported in bulk, e.g. Liquefied natural gas (LNG).</li> <li>• Concerns about health and risk from nuclear accidents may mean nuclear power has a reduced significance in the future.</li> </ul> <p><b>AO4</b></p> <ul style="list-style-type: none"> <li>• Figure 1c shows an increase in renewables in the period 2000–2035, meaning that governments will have to encourage more development of alternative technologies.</li> <li>• Figure 1c shows that coal consumption continues to be dominant and actually increases rapidly to around 5 billion toe by 2035. This will lead to more pressure from some agencies and groups to reduce greenhouse gases, especially in rapidly developing economies, such as India and China, where coal is a cheap source of fuel.</li> <li>• In Figure 1c, it can be seen that hydro and nuclear energy use has remained constant from the 1980s, but that gas has risen considerably due to the ease of global transport and fears over CO<sub>2</sub> emissions from fossil fuels.</li> <li>• Oil remains constant and dominant throughout the 1965–2035 period, peaking at around 4 to 5 billion toe. Oil is important as an energy source for Small Island Developing States (SIDS) and for use in transport.</li> <li>• Overall, there is a substantial total increase in energy demand from all sources.</li> </ul>

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> <li>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)</li> <li>Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (AO4)</li> </ul>
Level 2	4-6	<ul style="list-style-type: none"> <li>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)</li> <li>Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)</li> </ul>
Level 3	7-8	<ul style="list-style-type: none"> <li>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)</li> <li>Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)</li> </ul>

### Student answers to 1 (g)

~~They feel that~~ In the past coal was <sup>one of the</sup> <sup>(8)</sup> ~~the~~ most  
<sup>around 1.5 million tons</sup>  
 used energy source. However they predict that it  
<sup>only 2.5 billion tons</sup>  
 won't increase in demand that much. This may  
 be because they feel people are slowly moving  
 away from non-renewable and towards renewable sources  
 as they know it will run out.

In contrast, nuclear energy was not used that much.  
 However, they feel that it may increase in demand by  
 12 billion tonnes. This is because they believe people  
 will understand just how effective nuclear energy is  
 plus it is a renewable source of energy.

In addition, they feel gas may increase <sup>in demand</sup> by roughly 11 billion tonnes. Although it is non renewable, there is a lot of it available unlike coal. Therefore, they predict people will still continue to use it.

~~They~~ They believe there will be a 13 billion increase in HEP demand because it is non-renewable and easily sourced.

Overall, they believe there will be a large increase in demand of renewable energy compared to non-renewable which will stay stagnant. (Total for Question 1 = 25 marks)

### Examiner's comments:

This response was given 5 marks.

The candidate has picked some accurate information about the general trends in the area graph (AO4), but they have also misinterpreted the resource so some the data used as evidence is inaccurate.

The response provides an overview and uses evaluative language to express ideas about energy. AO3 overview is stronger than the AO4 part of this response.

As the population has increased the energy demand has also increased because more people need energy.

The coal use has been quite consistent since 1965 and is used a lot. Oil is also used a lot and both are predicted to be still used in 2035. Coal and oil have been easy to extract for a while and produce lots of energy. Gas use has dramatically increased since 1965 and is predicted to keep increasing.



Nuclear was barely used in 1965 simply because of how expensive it is to build a nuclear powerplant. Now and in the future nuclear is predicted to be used more but still not much due to expense. HEP wasn't used very much because people thought Coal and oil were a lot more beneficial. However now we have realised the damage HEP is predicted to be used more in the future. Other renewables like wind power and Solar power weren't used at all until 2000 but are increasing in use and predicted to increase more and maybe even slowly phase out the oil and Coal use.

**Examiner's comments:**

This response was given 6 marks.

This response contains well-argued reasons and it is partially evaluative in style (AO3) ("nuclear barely used in 1965 simply because of how expensive it was to build a nuclear power-plant"). The candidate has made some use of the resource and has picked up the general trends (AO4).

There however isn't enough precise use of information from the resource (AO4) e.g. figures and rates of change in order to get this response into Level 3, so it is held back by the AO4 component.

In 1965 there was a ~~high~~ demand for coal and oil (11.5 bn tons each), this slowly increased throughout the 20<sup>th</sup> century. Gas also increased rapidly with nuclear and HEP increasing at a slower rate. This was due to ~~development~~ <sup>development</sup> of World.

By 2000 the demand for coal has risen but only slightly. However after 2000 more consumer goods were being produced as well as electronics meaning the need for the manufacture of these products increased <sup>coal demand</sup> to 3.5 bn tons in

2012 and oil to 3 bn tons and gas to 2.5 bn tons. The <sup>gradual</sup> increase was due to the standard of living increasing globally. As more countries are becoming more developed ~~the~~ more people have disposable income to spend on products which need to be manufactured ~~using~~ oil/gas/coal to power. <sup>\* need energy for electricity - power homes</sup>

However as we move into the future there is a prediction that other renewable sources of energy will increase rapidly such as HEP, Nuclear to combat the fact that oil/gas/coal will run out and be depleted. These predicted changes still include the

(Total for Question 1 = 25 marks)

demand for non-renewable energy sources to rise by 2035 as natural gas to 4.5 bn tons. By 2035

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2035 we will need nearly 18 bn tons of energy.

\* As the population of world increases the demand for more energy increases.

**Examiner's comments:**

This response was given 8 marks.

This response is strong on AO3. The candidate applies understanding to deconstruct the graph and provide logical connections (AO3) e.g. 'As countries are becoming more developed people will have more disposable income to spend on electrical products'.

There is more AO4 than AO3 in this response. When you refer to the band descriptors there is sufficient quality of thought to reach Level 3. This response talks a lot about rates of change and explains the geography shown in the resource.