



**General Certificate of Secondary Education**  
**2014**

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**Geography**

Unit 1:  
Understanding Our Natural World

Higher Tier

**[GGG12]**

**TUESDAY 13 MAY, AFTERNOON**

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**MARK  
SCHEME**

## **General Marking Instructions**

### ***Introduction***

Mark schemes are intended to ensure that the GCSE examinations are marked consistently and fairly. The mark schemes provide markers with an indication of the nature and range of candidates' responses likely to be worthy of credit. They also set out the criteria which they should apply in allocating marks to candidates' responses. The mark schemes should be read in conjunction with these general marking instructions.

### ***Assessment objectives***

Below are the assessment objectives for GCSE Geography.

Candidates must show they are able to:

- recall, select and communicate their knowledge and understanding of places, environments and concepts (AO1);
- apply their knowledge and understanding in familiar and unfamiliar contexts (AO2); and
- select and use a variety of skills, techniques and technologies to investigate, analyse and evaluate questions and issues (AO3).

### ***Quality of candidates' responses***

In marking the examination papers, examiners should be looking for a quality of response reflecting the level of maturity which may reasonably be expected of a 15- or 16-year-old which is the age at which the majority of candidates sit their GCSE examinations.

### ***Flexibility in marking***

Mark schemes are not intended to be totally prescriptive. No mark scheme can cover all the responses which candidates may produce. In the event of unanticipated answers, examiners are expected to use their professional judgement to assess the validity of answers. If the answer is particularly problematic, then examiners should seek the guidance of the Supervising Examiner.

### ***Positive marking***

Examiners are encouraged to be positive in their marking, giving appropriate credit for what candidates know, understand and can do rather than penalising candidates for errors or omissions. Examiners should make use of the whole of the available mark range of any particular question and be prepared to award full marks for a response which is as good as might reasonably be expected of a 15- or 16-year-old GCSE candidate.

### ***Awarding zero marks***

Marks should only be awarded for valid responses and no marks should be awarded for an answer which is completely incorrect or inappropriate.

### ***Types of mark schemes***

Mark schemes for tasks or questions which require candidates to respond in extended written form are marked on the basis of levels of response which take account of the quality of written communication.

Other questions which require only short answers are marked on a point for point basis with marks awarded for each valid piece of information provided

### ***Levels of response***

Tasks and questions requiring candidates to respond in extended writing are marked in terms of levels of response. In deciding which level of response to award, examiners should look for the 'best fit' bearing in mind that weakness in one area may be compensated for by strength in another. In deciding which mark within a particular level to award to any response, examiners are expected to use their professional judgement. The following guidance is provided to assist examiners.

- **Threshold performance:** Response which just merits inclusion in the level and should be awarded a mark at or near the bottom of the range.
- **Intermediate performance:** Response which clearly merits inclusion in the level and should be awarded a mark at or near the middle of the range.
- **High performance:** Response which fully satisfies the level description and should be awarded a mark at or near the top of the range.

### ***Marking calculations***

In marking answers involving calculations, examiners should apply the 'own figure rule' so that candidates are not penalised more than once for a computational error.

### ***Quality of written communication***

Quality of written communication is taken into account in assessing candidates' responses to all tasks and questions that require them to respond in extended written form. These tasks and questions are marked on the basis of levels of response. The description for each level of response includes reference to the quality of written communication.

For conciseness, quality of written communication is distinguished within levels of response as follows:

Level 1: Quality of written communication is limited

Level 2: Quality of written communication is satisfactory

Level 3: Quality of written communication is of a high standard.

In interpreting these level descriptions, examiners should refer to the more detailed guidance provided below.

**Level 1 (Limited):** Candidates present some relevant information in a form and using a style of writing which suits its purpose. The text is reasonably legible. Spelling, punctuation and the rules of grammar are used with some accuracy so that meaning is reasonably clear. A limited range of specialist terms is used appropriately.

**Level 2 (Satisfactory):** Candidates present relevant information in a form and using a style of writing which suits its purpose. The text is legible. Spelling, punctuation and the rules of grammar are used with considerable accuracy so that meaning is clear. A good range of specialist terms is used appropriately.

**Level 3 (High Standard):** Candidates present, and organise effectively, relevant information in a form and style of writing which suits its purpose. The text is fluent and legible. Spelling, punctuation and the rules of grammar are used with almost faultless accuracy so that meaning is clear. A wide range of specialist terms is used skilfully and with precision.

***Assessment of spelling, punctuation and the accurate use of grammar.***

Marks for spelling, punctuation and the accurate use of grammar will be allocated to specific questions where there is a requirement for sufficient extended writing to enable the accurate application of Performance descriptions (see below). These marks will be identified to candidates on the question papers.

**Performance descriptions**

**(i) Threshold performance**

Candidates spell, punctuate and use the rules of grammar with reasonable accuracy in the context of the demands of the question. Any errors do not hinder meaning in the response. Where required, they use a limited range of specialist terms appropriately.

**(ii) Intermediate performance**

Candidates spell, punctuate and use the rules of grammar with considerable accuracy and general control of meaning in the context of the demands of the question. Where required, they use a good range of specialist terms with facility.

**(iii) High performance**

Candidates spell, punctuate and use the rules of grammar with consistent accuracy and effective control of meaning in the context of the demands of the question. Where required, they use a wide range of specialist terms adeptly and with precision.

As shown by the performance descriptions, SPaG marks are awarded in the context of the demands of the question. If the candidate's response does not address the question then no SPaG marks are available. However, if the candidate has attempted to answer the question but produced nothing of credit, SPaG marks may still be awarded.

**Theme A: The Dynamic Landscape**

**AVAILABLE  
MARKS**

**1 (a) (i)** State the height of the land shown by the spot height at Potter Heigham.

3 metres [1]

**(ii)** State the direction of Eccles on Sea GR 4029 from Winterton-on-Sea GR 4919.

North West [1]

**(iii)** State the straight line distance from the parking at Winterton-on-Sea GR 498198 to the parking at Sea Palling GR 427274.

Award [1]  
10.1–10.19 or 10.41–10.5 km

Award [2]  
10.2–10.4 km [2]

**(iv)** Blood Hills wind farm (GR 4719) is located 1.5 km west of the popular seaside resort of Winterton-on-Sea (GR 4919). Suggest how the wind farm owners and the local tourist board might be in conflict.

Award [1] for an answer which addresses only one viewpoint, e.g. The tourist board might feel fewer visitors would visit the area.

Award [2] for an answer which briefly addresses both viewpoints (**or** one viewpoint with development of reason) of the conflict, e.g. The wind farm owners want to promote clean energy but the tourist board would feel that the wind farm would discourage visitors.

Award [3] for an answer which presents both viewpoints with elaboration, e.g. The tourist board might feel that potential visitors would be discouraged from visiting the area because the wind turbines are unattractive and spoil the scenic appearance of the landscape. This would lead to a drop in revenue from tourism affecting local businesses. On the other hand the wind farm owners would want to make money from their business and feel that the wind farm produces non-polluting energy and does not interfere with other land uses. [3]

**(v)** Winterton-on-Sea has a wide sandy beach. Explain how a beach like this was formed.

Award [0] for a response not worthy of credit.

**Level 1 ([1])**

A limited explanation which makes reference to a beach being a depositional feature or formed by constructive waves, e.g. A beach is formed by deposition or a beach is formed by constructive waves.

**Level 2 ([2]–[3])**

An explanation which makes clear reference to a beach being formed by deposition by constructive waves, e.g. a sandy beach is formed by constructive waves depositing sand on a coastline [2] or a sandy beach is formed by constructive waves with a strong swash and a weak backwash depositing sand on a coast. [3]

**Level 3 ([4])**

A thorough explanation which covers the processes involved in forming a beach and the nature of the beach or its location.

e.g. A sandy beach is formed by deposition in the inter-tidal area between high and low tide where sand is pushed onto the beach by constructive waves. Over time this material can build up and be blown inshore by wind to form a beach. On sandy beaches the backwash of the waves removes material forming a gently sloping beach.

N.B. Credit to level 3 fully developed answers relating to longshore drift which highlight the process and explain that the material may have originated somewhere else. This response acceptable for this question as the coastline has groynes revealing the operation of longshore drift.

[4]

- (b) It has been stated that 15km of sea defences between Eccles-on-Sea (GR 4029) and Winterton-on-Sea (GR 4919) will not be sustainable in 50 years time.

- (i) State the number of villages that will be lost if the area is flooded.

6 villages

[1]

- (ii) Using the Ordnance Survey map, name two sea defences used along this stretch of coastline.

Reefs, Sea walls or Groynes or Rocks  
(2 × [1])

[2]

- (iii) Suggest **one** reason why planners would suggest the area should be allowed to flood and suggest why the public could object.

Award [1] for an answer which addresses only one viewpoint, e.g. The planners might feel the area should be allowed to flood as it will be too expensive to defend.

Award [2] for an answer which briefly addresses both aspects of the conflict but in limited detail or in a general manner, e.g. The planners might feel that the area should be allowed to flood as it will be too expensive to defend but the public would object as their homes will be destroyed.

Award [3] for an answer which addresses both viewpoints with elaboration, e.g. The planners might feel that it would be too expensive to defend this large area of coastline (in a sustainable manner) as it is very low lying and sea defences such as a sea wall would be costly to maintain. Meanwhile local people would object as 6 villages and 5 medieval churches will be lost forever along with 4 natural freshwater habitats. They would consider that the money should be spent to protect the natural and human environment.

[3]

- (c) (i) Complete **Table 1** to provide a key for **Fig 2**. Choose your answers from the list below.

**Table 1**

Key	
1	INTERCEPTION
2	SURFACE RUNOFF
3	Percolation (given)
4	THROUGHFLOW
5	GROUNDWATER FLOW
6	River (given)

(4 × [1]) [4]

- (ii) State the meaning of the term **percolation**.

Award [1] for a simple definition, e.g. The downward movement of water in rock.

Award [2] for a full definition, e.g. The movement of water from the soil in the bedrock/groundwater (store). [2]

- (iii) Explain how heavy rainfall on wet ground might affect the discharge of a river.

Award [1] for a simple statement, e.g. There will be an increase in the amount of discharge.

Award [2] for a statement with a consequence connecting precipitation to discharge. Heavy rainfall on wet ground leads to overland flow which increases the discharge.

Award [3] for a statement with consequence and elaboration. E.g. If there is heavy rainfall on already saturated ground the rainwater will not be able to infiltrate the waterlogged ground so there will be an increase in overland flow. This means that there will be an increase in the amount of water reaching the river rapidly leading to an increase in the discharge. [3]

- (d) (i) Describe the river channel changes downstream using **Table 2**.

Award [0] for a response not worthy of credit.

**Level 1 ([1])**

Candidates give a basic analytical statement, e.g. The river channel gets wider downstream. No figures L1.

**Level 2 ([2]–[3])**

The candidates refer to at least two aspects of the channel and uses data from the table to illustrate their answer for top Level 2, e.g. The river gets wider downstream increasing from 0.66m near the source to 8.50m 9km downstream. It also gets 0.22 m deeper along this stretch.  
Two aspects described and figures for 1 = 2 marks  
Two aspects described and figures for 2 = 3 marks

**Level 3 ([4])**

The candidate describes the changes in width, depth and slope and illustrates their answer with data from the table for at least 2 of the 3 aspects. E.g. The river gets wider and deeper downstream for example it increases from a width of 0.66m near the source to 8.50m 9km downstream. It also gets 0.22m deeper, being 0.07m wide 0.30km from the source, 0.16m wide 1.30km downstream and increasing to 0.29m 9km downstream. The channel gradient is similar near the source and 9km downstream 2.5–3 degrees but is much steeper, 7.5 degrees 1.3km downstream. [4]

- (ii) Describe and explain how the load changes with distance downstream using **Table 2** and **Fig. 3**.

Award [0] for a response not worthy of credit.

**Level 1 ([1]–[2])**

The candidate describes changes in load shape and/or load with no explanation or gives a simple explanation. E.g. The load gets smaller and more rounded.

**Level 2 ([3]–[4])**

The candidate describes changes in load and offers a basic explanation. Alternatively candidates can achieve bottom Level 2 for a full description but no explanation. Only [3], E.g. The load decreases in size downstream from 21.2cm near the source to 2.52cm 9km downstream. The rocks also became more rounded downstream, e.g. close to the source 40% of rocks were very angular while 60% were well-rounded 9km downstream. This is due to erosion breaking down the rocks and smoothing them. Max L2 if no % figures for shape.

**Level 3 ([5]–[6])**

The candidate describes the changes in shape and size in detail and offers an explanation for both, e.g. The load decreases in size downstream from 21.2cm 0.30km from the source to 2.52cm 9km downstream. It did however increase to 27.2cm at a point 1.30km downstream. The rocks also became more rounded and smoother downstream, e.g. close to the source 80% of rocks were very angular or angular while 9km downstream 60% were well-rounded and 40% rounded. The overall decrease in size is due to the erosional process of attrition whereby the rocks hit against each other breaking down into smaller pieces. In addition the rocks become smoother due to abrasion or grinding the rock fragments against the bed and banks. [6]

- (e) (i) Describe fully **one** possible impact this flood had on local people.

Award [1] for a basic statement, e.g. A B&B was flooded.

Award [2] for a valid statement with consequence, e.g. A B&B was flooded and the owners lost trade.

Award [3] for a full explanation with elaboration, e.g. A B&B was flooded. This means the owners lost trade and will have the expense of cleaning their property/They may not be able to afford insurance in the future and could go out of business. [3]

L3 – must have clear reference to Fig. 4.

- (ii) Explain how human activity can increase the risk of flooding in urban areas such as Morpeth.

Award [1] for a basic statement, e.g. Building on floodplain.

Award [2] for a valid statement with consequence, e.g. Tarmac surfaces do not let water through leading to increased run-off.

Award [3] for a full explanation with elaboration, e.g. Some towns are built on floodplains where there is a high flood risk. Urban areas have much tarmac and concrete and man made drains. These impermeable surfaces lead to rapid run-off into the river causing flooding as water cannot infiltrate the ground.

Answers could refer to increase in impermeable surfaces, blocked drains or changes in drainage basin due to, e.g. deforestation upstream. [3]

- (f) Evaluate the extent to which river management strategies used on a river that you have studied outside the British Isles can be considered sustainable.

Award [0] for a response not worthy of credit or e.g. a coastal strategy.

**Note: no mark for name of river.**

**Max L1 if UK river**

**Level 1 ([1]–[2])**

Candidates provide a limited factual account of strategies used on a named river outside the British Isles, e.g. levees were built along stretches of the Mississippi and meanders were straightened. Alternatively the candidate may simply provide a factual account of strategies with no reference to his or her chosen case study.

**Level 2 ([3]–[5])**

Candidates provide an account of strategies used on a named river outside the British Isles with limited evaluation of the extent to which the strategies can be considered sustainable, e.g. They have tried to control the Mississippi by building or strengthening levees and straightening meanders. Major flooding in 1993 shows this strategy has not worked. One method in good detail with fact/figs and evaluation max L2 [5]

**Level 3 ([6]–[8])**

Need 2 facts/figures/places named for full L3. Candidates provide detailed information about river management strategies used on a river outside the British Isles. There is clear evaluation of the extent to which the strategy is sustainable. E.g. The Mississippi River in the USA has been managed for over 100 years to improve navigation and prevent flooding. The levees were raised to 15 metres along 3000km of the river and meanders were straightened over a 1750km stretch but these strategies are very expensive and require regular maintenance. Such strategies are on sustainable due to cost and environmental problems. Recently the US Conservation Service has spent \$25 million buying farmland prone to flooding and converting it to natural conditions which do not require any maintenance and have no obvious negative environmental impacts. This is much more sustainable than the levees. Some element of judgement needed for top L3. [8]

**Assessment of spelling, punctuation and the accurate use of grammar.**

AVAILABLE  
MARKS

If the answer does not address the question then no SPaG marks are available. If the candidate has attempted to answer the question but produced nothing of credit, SPaG marks may still be awarded.

**Threshold performance ([1])**

Candidates spell, punctuate and use the rules of grammar with reasonable accuracy in the context of the demands of the question. Any errors do not hinder meaning in the response. Where required, they use a limited range of specialist terms appropriately.

**Intermediate performance ([2]–[3])**

Candidates spell, punctuate and use the rules of grammar with considerable accuracy and general control of meaning in the context of the demands of the question. Where required, they use a good range of specialist terms with facility.

**High performance ([4])**

Candidates spell, punctuate and use the rules of grammar with considerable accuracy and general control of meaning in the context of the demands of the question. Where required, they use a wide range of specialist terms adeptly and with precision.

[4]

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**Theme B: Our Changing Weather and Climate**

**AVAILABLE  
MARKS**

**2 (a)** Study **Fig. 5** which shows different cloud types. Answer the questions which follow.

**(i)** State **three** characteristics of cirrus clouds.

Award [0] for a response not worthy of credit  
Any three appropriate characteristics, e.g. they are  
High, white  
They are thin and wispy.  
They are found high in the atmosphere.  
Ice crystals in cirrus clouds.  
They usually indicate the approach of a warm front.  
(3 × [1])

[3]

**(ii)** Explain why cumulonimbus clouds bring rain.

Award [0] for a response not worthy of credit.

**Level 1 ([1])**

A simple statement, e.g. because they have water in them [1]

**Level 2 ([2]–[3])**

A more detailed statement, e.g. warm air rises over cold air causing clouds to form [2].

Warm air rises over cold air. This causes the warm air to cool and for condensation to occur. These water droplets will now form clouds. [3]

**Level 3 ([4])**

A very detailed statement, e.g. cold polar air undercuts warm tropical air which rises. This causes the warm air to cool rapidly. Condensation begins to occur. Water droplets form and begin to join together. This causes the cumulonimbus cloud to form. When the cloud becomes heavy it will release the droplets in the form of rain. [4]

[4]

**(iii)** State the unit of measurement used to measure cloud cover.

Oktas or eighths

[1]

**(b)** Study **Fig. 6**, which shows a weather instrument. Answer the questions which follow.

**(i)** State the weather element that is measured by this instrument.

Wind direction

[1]

(Don't accept wind.)

**(ii)** Explain how this weather instrument works.

Award [0] for a response not worthy of credit

**Level 1 ([1])**

A simple statement relating to how it works, e.g. it spins around when the wind blows.

**Level 2 ([2])**

A more detailed statement that indicates how a weather vane works, e.g. as the wind vane turns the pointer or arrow will indicate the direction the wind is coming from **or** compass points are usually on the wind vane to help us see the wind direction, as the wind vane spins. [2]

**Level 3 ([3])**

A very detailed statement that indicates how a weather vane works, e.g. the wind vane has a pointer/arrow that can spin around. The front of the pointer/arrow faces into the wind. Most wind vanes have the points of the compass below the pointer. [3]

(c) Study **Fig. 7** which shows a weather system over the British Isles. Answer the questions which follow.

(i) Complete the key on **Fig. 7**



Warm front



Cold front

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isobar

or air pressure or any valid alternative answer (mb, millibars, line of equal pressure etc)

3 × [1]

[3]

(ii) Describe and explain the change in temperature as the weather system passes across the British Isles.

Award [0] for a response not worthy of credit.

**Level 1 ([1])**

A simple answer which describes or explains, e.g. the temperature increases or decreases **or** the warm sector is present.

**Level 2 ([2]–[3])**

An answer which describes and gives some explanation, e.g. the temperature will increase because warm air is present. [2]  
e.g. the temperature will increase because it is in the warm sector and then go down again. [3]

**Level 3 ([4]–[5])**

A detailed answer which describes both the increase and decrease in temperature and explains why with reference to the passing of fronts and air masses named for full Level 3 answer.  
e.g. The temperature will increase in Norwich and then decrease. This is due to Norwich coming into the warm sector and then the temperatures decrease because the cold front passes. [4]  
e.g. The temperatures will increase from 6°C to 10°C and then decrease to 4°C as the depression passes. The temperature increases as the warm front passes and falls as the cold front passes. The air masses change; the temperature increases because warm, tropical maritime air is in the warm sector and temperatures fall again as the cold front passes, bringing a cold polar maritime air mass. [5]

(d) Reducing deforestation of the rainforest can help deal with climate change.

Explain how this strategy can help deal with climate change. You should refer to a place in your answer.

Award [0] for a response not worthy of credit.

This question requires candidates to look at strategies to reduce the rate of deforestation and how it can impact on climate change.

If candidates talk about other strategies such as Kyoto Agreement, renewable energy or use of public transport the maximum of [2].

**Level 1 [1]**

A simple statement which may only focus on deforestation or climate change e.g. Trees store carbon dioxide [1] or less carbon dioxide will go into the atmosphere [1]

**Level 2 ([2]–[3])**

A more detailed statement which begins to talk about deforestation strategies and how they can reduce climate change with no reference to place.

Trees help to store carbon dioxide, so it is important not to cut them down or burn them. [2] In many countries attempts are being made to stop burning them as this releases carbon dioxide into the atmosphere. Carbon dioxide is a greenhouse gas that leads to global warming. [3]

**Level 3 ([4]–[5])**

A very detailed statement about deforestation strategy/strategies which reduces climate change. A clear reference to place for [5].

Trees help to store carbon dioxide, so it is important not to cut them down or burn them. In many countries attempts are being made to stop burning them as this releases carbon dioxide into the atmosphere. Carbon dioxide is a greenhouse gas that leads to global warming which is responsible for the heating of our atmosphere. In the USA a policy called REDD aims to compensate tropical countries, e.g. Guyana who conserve their tropical rainforests. This initiative will save many hectares of rainforest from being cut down. [5]

AVAILABLE  
MARKS

25

### Theme C: The Restless Earth

AVAILABLE  
MARKS

- 3 (a) (i) Label **X** and **Y** on **Fig. 8** to name the two layers.

**X** = Inner Core/Core                      **Y** = Mantle                      [2]

- (ii) The crust of the earth is divided into plates. Explain how plates are able to move.

Award [1] for a brief accurate statement, e.g. Plates can move because they float on the mantle or because of currents of magma below the plates.

Award [2] for a statement with a consequence, e.g. Plates can move because they rest on the molten magma of the mantle which moves in convection currents.

Award [3] for a statement, consequence and elaboration which makes a link to the rising or falling currents, e.g. Plates can move because they rest on the molten magma of the mantle which moves in convection currents so that where magma rises the plates were pulled apart (or where the magma sinks in a convection current the plates are dragged down and destroyed).                      [3]

- (b) (i) Identify the features labelled A, B and C on **Fig. 9**

A = (Ocean) Trench    B = Volcano    C = Focus (of earthquake)                      [3]  
or shockwaves

- (ii) Explain how earthquakes are caused at this type of boundary.

Award [1] for a brief statement, e.g. Plates collide and cause an earthquake.

Award [2] for a statement and consequence, e.g. Plates collide and stress or pressure builds up due to friction between the plates so the plates move and this causes an earthquake.

Award [3] for a full explanation with a link to shock waves, e.g. Two plates collide and stress or pressure builds up due to friction between the plates so the plates move suddenly and shake the rock sending out shock waves creating an earthquake.                      [3]

- (iii) One impact of earthquakes is liquefaction. State the meaning of the term **liquefaction**.

Award [1] for a brief accurate statement, e.g. soil becomes liquid mud.

Award [2] for a developed definition, e.g. an earthquake shakes wet soil/ground so the water rises to the surface and the solid soil becomes liquid mud.                      [2]

- (c) Earthquakes have long term impacts on people. For an earthquake you have studied describe those impacts and one strategy to protect people when an earthquake occurs in the future.

Location of earthquake may be in a MEDC or LEDC, e.g. Aceh, Indonesia earthquake of 2004 caused the Indian Ocean tsunami or Kobe, Japan 1995 L1 if no named place.

Award [0] for a response not worthy of credit.

L1 if impacts only environmental (Max [2]).

L2 if no strategy (only impacts)

### **Level 1 ([1]–[2])**

Brief statements of long term impacts or one impact in detail, e.g. there were many deaths from this earthquake in many countries around the Indian Ocean or buildings and homes were destroyed or there was huge tidal wave.

### **Level 2 ([3]–[5])**

Statements with consequences for at least two impacts (**or** one impact in good detail with strategy) with some reference to one strategy implemented for the future, e.g. there were many deaths from the tsunami after this earthquake in many countries around the Indian Ocean and the sea level rose due to the tsunami so that water supplies were contaminated and people had to leave low-lying areas at the coast; one strategy is that a tsunami early warning system has been set up so that people can be warned about tidal waves after an earthquake.

### **Level 3 ([6]–[7])**

At least two impacts with detail on one strategy implemented for the future and elaboration to include at least two facts/figures/places related to the named earthquake, e.g. There were up to 200 000 deaths from this earthquake in many countries around the Indian Ocean as far away as India and Sri Lanka; the sea level rose due to a tsunami so that water supplies were contaminated so people had to move away from the coast as in the Maldives where people had to leave 17 low-lying coral islands at the coast; one strategy for the future is that tsunami early warning system with 25 new seismograph stations linked to national tsunami information systems has been set up in the Indian Ocean so that people can be warned about tidal waves and they have time to move inland to higher land. [7]

### **Assessment of spelling, punctuation and the accurate use of grammar.**

If the answer does not address the question then no SPaG marks are available. If the candidate has attempted to answer the question but produced nothing of credit, SPaG marks may still be awarded.

### **Threshold performance ([1])**

Candidates spell, punctuate and use the rules of grammar with reasonable accuracy in the context of the demands of the question. Any errors do not hinder meaning in the response. Where required, they use a limited range of specialist terms appropriately.

### **Intermediate performance ([2]–[3])**

Candidates spell, punctuate and use the rules of grammar with considerable accuracy and general control of meaning in the context of the demands of the question. Where required, they use a good range of specialist terms with facility.

**High performance ([4])**

Candidates spell, punctuate and use the rules of grammar with considerable accuracy and general control of meaning in the context of the demands of the question. Where required, they use a wide range of specialist terms adeptly and with precision. [4]

- (d) Name an area of basalt columns that you have studied and explain their formation.

**Level 1 ([1])**

A brief statement which may have no named area, e.g. lava poured out and cooled into columns [1] or magma poured out from the mantle [1]

Candidates present some relevant information in a form and using a style of writing which suits its purpose. The text is reasonably legible. Spelling, punctuation and the rules of grammar are used with some accuracy so that meaning is reasonably clear. A limited range of specialist terms is used appropriately.

**Level 2 ([2]–[3])**

A statement and consequences, e.g. At the Giant’s Causeway magma poured out from the mantle through cracks or fissures in the crust [2]; this lava then hardened into basalt. [3]

Candidates present relevant information in a form and using a style of writing which suits its purpose. The text is legible. Spelling, punctuation and the rules of grammar are used with considerable accuracy so that meaning is clear. A good range of specialist terms is used appropriately.

**Level 3 ([4]–[5])**

A statement, consequence and elaboration for a named area, e.g. At the Giant’s Causeway magma poured out from the mantle through cracks or fissures in the crust and the lava cooled slowly in hollows. It contracted into hexagonal or pentagonal columns [4] and hardened into basalt which was then exposed by erosion at the coast over many years. [5]

Candidates present and organise effectively, relevant information in a form and style of writing which suits its purpose. The text is fluent and legible. Spelling, punctuation and the rules of grammar are used with almost faultless accuracy so that meaning is clear. A wide range of specialist terms is used skillfully and with precision. [5]

**Total**

**AVAILABLE  
MARKS**

29

**108**