



General Certificate of Secondary Education
January 2019

Geography
Unit 1:
Understanding Our Natural World
Foundation Tier
[GGG11]

MONDAY 14 JANUARY, AFTERNOON

**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 skillfully 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) Study the Ordnance Survey map extract of Lyme Regis, England. Answer the questions which follow.

(i) Name **one** river found on the Ordnance Survey map extract.

River Char or River Winniford or River Lim [1]

(ii) Underline the height of the land at its highest point in grid square 3694.

71 m 87 m 94 m [1]

(iii) State one other way to show height on a map

Use of colour or contours [1]
 Trig Point
 Triangulation Pillar

(iv) Underline the direction of Coast Heritage Centre (GR 3692) from Virtle Rock (GR 3391).

North-east South-east West [1]

(v) State the straight line distance from the Golf course (GR348937) to the Communications Mast at (GR405945)

5.5 – 5.8 km (Ans = 5.65 km) award [2]

5.2 – 5.49 km or 5.81 – 6.09 km award [1] [2]

(vi) Many holidaymakers visit this area. State two pieces of evidence that show that this is a tourist area.

Any two valid examples, e.g. caravan parks, aquarium, picnic sites, beaches, forests, golf course, etc. [2]

(b) Study **Fig. 1** which shows how load size changes downstream. Answer the questions which follow.

(i) Underline the type of graph shown in **Fig. 1**

Scattergraph Pie chart Bar graph [1]

(ii) Plot the information below on **Fig. 1**

Award [1] for accurate mark for distance downstream (12 km)
 Award [1] for accurate mark for bedload size = 5 cm [2]

(iii) Describe the trend shown in **Fig. 1**

Award [1] for a simple correct statement regarding the graph or bed load change in general, e.g. The load gets smaller.

Award [2] for a correct statement and elaboration that relates to this graph. For [2] It must contain at least one figure on size. The load gets smaller, it starts large and then reduces to about 3 cm.

Award [3] for a correct statement regarding trend, referring to at least two figures on size and recognising that it shows a negative correlation, e.g. the load gets smaller, it starts large at 21 cm before reducing to 10 cm before reducing to 3 cm. [3]

(iv) State and explain **one** cause of the change in load size as shown in **Fig. 1**

Accept any valid explanation (abrasion or attrition).

Award [1] for a brief statement,
e.g. the stones get eroded

Award [2] for a statement with some explanation,
e.g. The stones get eroded as they crash into one another

Award [3] for a statement that fully explains and names the erosion process,
e.g. As the stones move downstream they collide with one another. This collision breaks the stones up and they become smaller in size. This is called attrition. [3]

(c) Study **Fig. 2** which shows one site on a river.

(i) Underline the statement which best describes the location of the site shown in **Fig. 2**

At a confluence Near the mouth Near the source [1]

(ii) Complete **Table 1** by inserting the words INCREASES or DECREASES to describe how a river usually changes downstream. One has been completed for you.

Table 1

River characteristic	How does it change downstream?
Gradient	DECREASES
Width	INCREASES
Velocity	INCREASES (given)
Depth	INCREASES

[3]

(iii) State the meaning of the term **discharge**.

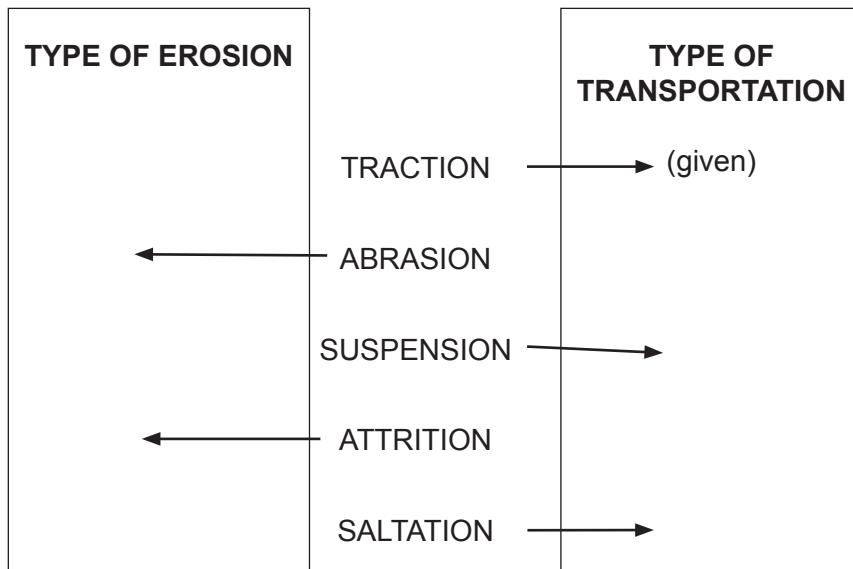
Award [1] for a brief definition,
e.g. the amount of water in a river.

Award [2] for a fuller definition,
e.g. the amount of water passing a certain point at a certain time in the river. (It is measured in cumecs.) [2]

AVAILABLE MARKS

(iv) Draw arrows to sort the following words into types of erosion or transportation. One has been completed for you.

AVAILABLE MARKS



(4 × [1])

[4]

(d) For a named river outside the British Isles, describe two strategies used to reduce the flood hazard.

River: Any valid river **outside** British Isles. Most responses will be based on the River Mississippi

[1]

Level 1 ([1]–[2])

Brief accurate statements which may only deal with one type of strategy or good answers about a river in the British Isles are limited to Level 1, e.g. Levees were used to prevent floods.

e.g. Levees are man-made embankments which were used to prevent floods.
e.g. Trees were planted on the hills around the drainage basin.

Level 2 ([3]–[4])

Accurate descriptions of at least two strategies,

e.g. Levees are a hard engineering measure used to keep water in the river channel; they are high embankments so that the river level can rise but the channel will not overflow in times of floods; trees were planted as soft engineering and they intercept rain and so less water flows into the River Mississippi.

Level 3 ([5]–[6])

Accurate descriptions of both strategies with two facts/figures/places relating to the named river,

e.g. Levees are a hard engineering measure which help to keep rising water levels in the river channel; they are high embankments so that the river level can rise high in times of floods; the banks were built up to 15 m high for 3000 km along the banks of the river (but they failed in 2001 as the river level rose higher than 15 m),

e.g. Trees were planted in the Tennessee Valley as a soft engineering measure to reduce flooding by increasing the interception of rain so that less water reaches the River Mississippi which helps to reduce floods in places like St. Louis.

[6]

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 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 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 with adeptly and with precision. [4]

(e) Study **Photograph 1** which shows a wave cut platform. Answer the question which follows.

Complete Table 2 which shows the stages in the formation of a wave cut platform. (One has been completed for you.)

Table 2

Statement	Stages
The base of the cliff is attacked by the waves.	1
A flat platform is left behind where the cliff once stood.	5 (given)
The cliff collapses due to the large wave cut notch at the bottom of the cliff.	3
A wave cut notch forms at the base of the cliff.	2
The cliff retreats.	4

(4 × [1])

[4]

(f) Many processes operate on our coastline. Study **Fig. 3** which shows one of these processes. Answer the question which follows.

AVAILABLE MARKS

(i) Name the process shown in **Fig. 3**

Longshore drift

[1]

(ii) Underline the correct term to complete the statement below. One has been completed for you.

Destructive waves break **9 / 15** times per minute. (given)

Constructive waves have a **small / tall** wave height.

Destructive / Constructive waves have a powerful swash and weak backwash.

Destructive waves **erode / build** up a beach.

(3 × [1])

[3]

(g) Study **Photograph 2** which shows a coastal defence engineering method. Answer the question which follows

(i) Underline the name of the hard engineering structure shown in Photo

Groyne

Sea wall

Gabion

[1]

(ii) For a named area in the British Isles that has a coastal management strategy, describe two methods used to protect the coast and comment on their sustainability.

Any valid coastal area that has a coastal management strategy – most will do Newcastle.

[1]

Level 1 ([1]–[2]) for a simple statement or brief description of sea, e.g. there is a sea wall [1] and beach nourishment [2], e.g. a sea wall will absorb energy [2]

Level 2 ([3]–[4]) for naming two methods with a brief description of both to achieve upper Level 2, e.g. a sea wall is used to absorb energy to protect the coastline and beach nourishment [3], e.g. a sea wall is used to absorb energy to protect the coastline and beach nourishment [3] which is bringing sand to build up the beach [4]

Level 3 ([5]–[6]) for a good description of both methods which refer to sustainability including f/f,

e.g. a sea wall was used. It is a concrete structure to deflect wave energy and it cost £4 million. It will offer good protection for the people of Newcastle. Sea walls are unsustainable as they need constant maintenance.

Beach nourishment is more sustainable as sand is taken to build up the beach [5]. It is more natural looking but does require some maintenance [6].

[6]

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 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 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 with adeptly and with precision.

[4]

58

Theme B: Our Changing Weather and Climate

AVAILABLE MARKS

2 (a) Study **Table 3** which shows images of two weather recording instruments. Answer the questions which follow.

(i) Complete **Table 3** by inserting the correct answers in the blank spaces. Award [1] each for each correct response

Table 3

IMAGE OF THE INSTRUMENT	NAME OF INSTRUMENT	WEATHER ELEMENT MEASURED	UNITS OF MEASUREMENT
 © VladisChern / Getty Images	Thermometer	Temperature (given)	°C or °F
 © CCEA	Anemometer (given)	Wind speed NOT Wind	Km/hr (given)

(3 × [1])

[3]

(ii) Explain how a wind vane works.

Award [0] for a response not worthy of credit

Award [1] for a simple statement relating to how it works,
e.g. it spins around when the wind blows.

Award [2] for a sound statement that indicates how a weather vane works,
e.g. as the wind vane turns the pointer or arrow will indicate the direction of the wind.

Award [3] for a detailed statement that indicates how a weather vane works,
e.g. the wind vane has a pointer/arrow that can spin around. The arrow points into the direction the wind comes from using the compass points below. [3]

(b) Study **Fig. 4** which shows the direction in which some air masses move towards the British Isles. Answer the questions which follow.

AVAILABLE MARKS

(i) Underline the air mass represented by **X** on **Fig. 4**

Polar maritime Tropical Continental Tropical maritime [1]

(ii) State the meaning of the term **air mass**.

Award [1] for a simple definition,
e.g. It is a body of air.

Award [2] for a full definition,
e.g. An air mass is a body of air which takes on the moisture and
temperature characteristics of the area in which it is situated. [2]

(iii) Describe and explain the temperature and moisture characteristics of a polar continental air mass.

Level 1 [1]

A simple description,
e.g. it is cold, or it is dry.

Level 2 [2]–[3]

A partial description or explanation (covering temperature/moisture,
e.g. it is cold as it comes from the north [2] or it is dry as it doesn't pick
up moisture from the continent. [2]

e.g. it is cold as it comes from the north [2] and it is a dry air mass. [3]

Level 3 [4]

A full description and explanation of both temperature and moisture
characteristics,
e.g. it is cold as it comes from the cold polar north. It is a dry air mass
as it doesn't pick up any moisture from the dry continent of Europe. [4]

(c) Study **Fig. 5** which shows a cross section through a weather system.
Answer the questions which follow.

(i) Underline the type of front located at **A** on **Fig. 5**

Occluded front Cold front Warm front [1]

(ii) Complete **Table 4** by writing TRUE or FALSE beside the statements relating to depressions. One has been completed for you.

AVAILABLE MARKS

Table 4

Statement	TRUE or FALSE
Depressions bring warm, dry weather	FALSE (given)
Depressions are areas of low pressure	TRUE
Depressions have 4 fronts	FALSE
In the warm sector, temperatures increase	TRUE

(3 × [1])

[3]

(iii) Explain why depressions bring rain

Award [1] for a basic explanation,
e.g. there are clouds present

Award [2] for a statement with some explanation,
e.g. as air rises it cools. This cooling air causes condensation which allows clouds to form.

Award [3] for a detailed answer relating to air masses involved,
e.g. as warm (tropical maritime) air rises over the cold (polar maritime) air it cools. This cooling air causes condensation which allow clouds and rain to form.

[3]

(d) With reference to a named country that you have studied, explain one positive and one negative impact of climate change on the economy of that country.

Name of country (the named country may be a MEDC or LEDC) [1]

A list with positives/negatives (with no explanation) will only score [2].

Level 1 ([1])

Simple statements of effect which may only be positive or negative,
e.g. it will get warmer/wetter [1]. More crops will grow.

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])

Statements with consequences which are both positive and negative,
e.g. it will be warmer and so there will be higher yields of crops in the UK and it will be warmer and so there will be more pests and diseases.

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.

AVAILABLE
MARKS

Level 3 ([4])

For top **Level 3** an answer which addresses all aspects of the question with good geographical detail and includes one fact/figure relating to the country named,

e.g. one benefit of climate change to the UK is that the temperatures will increase. This warmth will enable farmers to earn more income by producing higher yields of crops such as maize, grapes or sugar beets in SE England. However, the extra warmth could bring more pests and diseases such as aphids and mites.

Candidates present and organise effectively relevant information in a form and using a 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.

[4]

25

Theme C: The Restless Earth

AVAILABLE MARKS

3 (a) Study **Fig. 6** which shows plate movement in Iceland. Answer the questions which follow

(i) State the number of volcanoes shown in **Fig. 6**

8

[1]

(ii) Underline the correct type of plate boundary shown in **Fig. 6**

Conservative**Destructive****Constructive**

[1]

(iii) Explain why plates move.

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

Level 1 ([1]) a simple reason,
e.g. because they sit on the mantle.

Level 2 ([2]–[3]) a more detailed, but incomplete explanation,
e.g. because they sit on the mantle which is moving as it is heated by the core.

Magma rises from the core as it is light. It then cools close to the crust before sinking back down to the Earth's core. This constant movement makes the plates unstable. [3]

Level 3 ([4]) a full explanation,
e.g. tectonic plates sit on the mantle, which moves as the magma rises from the core, cools close to the crust then sinks back down to the Earth's core. This creates convection currents which cause the plates to move. [4]

(b) (i) Using **Fig. 7**, complete **Table 5** by inserting the correct layer of the Earth. One has been completed for you.

Table 5

Number	Name of the Earth's layer
1	CORE (given)
2	MANTLE
3	CRUST

(2 × [1])

[2]

(ii) Describe **one** characteristic of the Earth's core

Award [1] for a simple statement.
e.g. the core is hot

Award [2] for a statement and fact,
e.g. the core is hot at 5000°C

[2]

(c) Study **Fig. 8** which shows the damage an earthquake can cause. Answer the questions which follow.

(i) Underline the name of the scale in **Fig. 8** which records earthquake magnitude.

Beaufort

Richter

Mercalli

[1]

(ii) Study **Fig. 8** and complete **Table 6** by filling in the correct information

Table 6

Earthquake Magnitude	Description
2.2 (given)	Usually not felt, but can be recorded by seismograph (given)
7.6 (given)	Major earthquake causing serious damage [1]
Any figure between 5.5–6.0 [1]	Slight damage to buildings (given)

(2 × [1])

[2]

(iii) State the meaning of the term earthquake

Award 1 for a basic definition,
e.g. when the ground shakes violently

Award 2 for a detailed definition,
e.g. when two plates move we have sudden release of pressure. This causes the ground to move violently. [2]

(d) Describe **two** impacts of an earthquake that occurred in the British Isles.

Award [1] for British Isles earthquake – most will say Market Rasen [1]

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

Accept valid alternative answers.

NB Maximum **Level 1** for impact if no named place or an earthquake located outside British Isles.

Level 1 ([1])

A simple statement impact,
e.g. some parts of buildings collapsed/people were hurt.

Level 2 ([2]–[3])

A statement relating to an impact, one fact/fig needed for [3],
e.g. A man was injured when a chimney fell upon him. A church was also damaged quite badly (£10,000) during the earthquake.

Level 3 ([4])

A statement which fully explains the impacts with 2 fact/figures relating to the earthquake,
e.g. These seismic waves caused one person to be hurt when a chimneys/roofs of houses collapsed. He suffered a broken pelvis. The old church in Market Rasen is a Grade II listed building and a stone cross fell, causing £10 000 worth of damage. [4]

AVAILABLE MARKS

(e) For an earthquake in a MEDC you have studied, evaluate the success of **one** precaution put in place before the earthquake happened.

Award [1] for an appropriate MEDC country, e.g. Japan

[1]

Award a max of low **Level 2** [2] for good description with no evaluation.

Level 1 ([1])

A simple statement,

e.g. Water was stored in underground cisterns,

e.g. there were earthquake drills so people knew what to do.

Level 2 ([2]–[3])

Some description of one precaution and either how it was successful or how it did not work. To achieve top Level 2 one fact/fig must be used.

e.g. Earthquake drills took place so that people knew what to do when an earthquake happened. This knowledge would hopefully keep them alive.

However due to the strength of the earthquake 5 500 people died. [3]

Level 3 ([4])

Good descriptions of one precaution and discussion of both how they were successful and some reference its limitations with knowledge shown by at least one specific facts/places related to the named earthquake for **Level 3**,
e.g. There were also buildings constructed to withstand earthquakes by having cross beams, springs and rubber pads to absorb the shaking, so that they did not collapse and kill people. However, despite these precautions, many buildings collapsed, 5 500 people died and 40 000 were injured in the Kobe earthquake of 1995.

[4]

25

Total

108