



Rewarding Learning

Centre Number

71	
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Candidate Number

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General Certificate of Secondary Education
2014

Geography

Unit 1:
Understanding Our Natural World
Foundation Tier

[GGG11]



TUESDAY 13 MAY, AFTERNOON

TIME

1 hour 30 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.

Answer **all three** questions.

You are provided with an O.S. map for use with Question 1.

Do not write your answers on this map.

INFORMATION FOR CANDIDATES

The total mark for this paper is 108.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

Quality of written communication will be assessed in Question 3(d).

Spelling, punctuation and the accurate use of grammar will be assessed in questions 1(g) and 2(d).

For Examiner's use only	
Question Number	Marks
1	
2	
3	

Total Marks	
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Theme A: The Dynamic Landscape

1 (a) Study the Ordnance Survey extract of part of the east coast of England. Answer the questions which follow.

(i) State the height of the land shown by the spot height at

Potter Heigham GR 418199. _____ m [1]

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

south east north east north west south 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.

_____ km [2]

(iv) Winterton-on-Sea (GR 4919) has a wide sandy beach. Explain how a beach like this was formed.

[4]

Examiner Only

Marks

Remark

(b) (i) Study **Fig. 1** which shows a beach cafe on the coastline at Winterton-on-Sea (GR 4919). The local council does not want to spend money building sea defences here. Suggest why the cafe owner might disagree with the local council about the need for coastal defences.



© Andrew Stacey

Fig. 1

[3]

(ii) Beaches are eroded by destructive waves. State **two** facts about **destructive waves**.

[2]

Examiner Only	
Marks	Remark

(c) Study **Fig. 2** which is a photograph of the beach at Sea Palling (GR 4227), a popular tourist resort. The rocks in the sea have been put there to stop the beach from being eroded.



© Andrew Stacey

Fig. 2

(i) Name **one** other method which can be used to protect a beach from erosion and explain how it works.

Method of Coastal Protection _____ [1]

How it works _____

[3]

(ii) Identify **three** pieces of map evidence, other than the beach, which suggest that Sea Palling (GR 4227) is used by tourists.

[3]

Examiner Only	
Marks	Remark

(iii) Suggest **two** problems that may be caused by visitors to a beach.

[2]

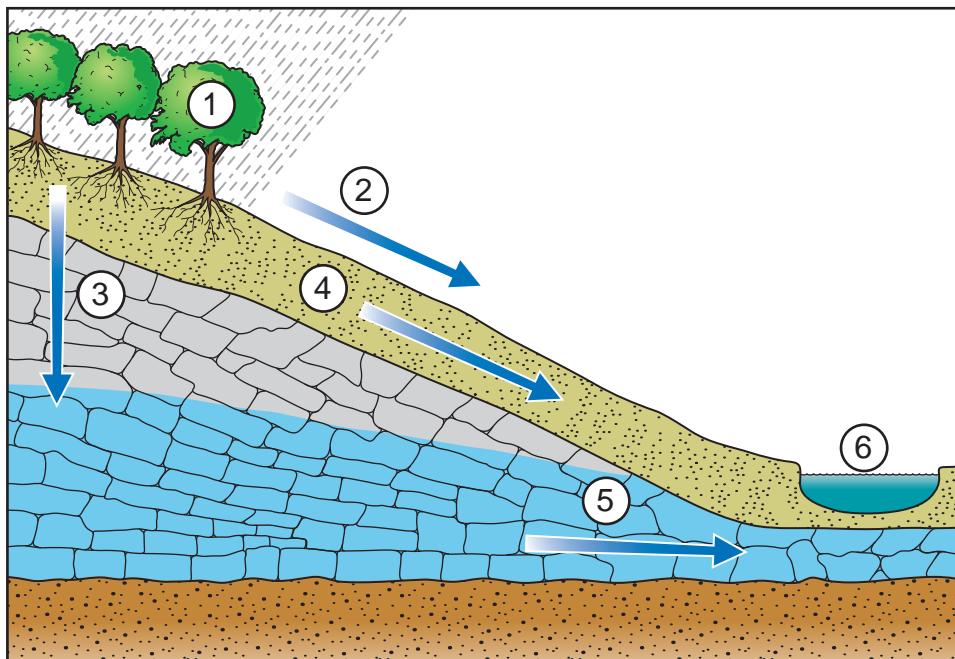
Examiner Only	
Marks	Remark

(d) Study **Fig. 3** which shows how water moves in a drainage basin. Answer the questions which follow.

Examiner Only

Marks

Remark



Source: CCEA

Fig. 3**Table 1**

Key	
1	
2	Surface runoff
3	
4	Throughflow
5	
6	River

[3]

(i) Complete **Table 1** to provide a key for **Fig. 3**. Choose your answers from the list below.

groundwater flow interception discharge percolation

(ii) State the meaning of the term **drainage basin**.

[2]

Examiner Only

Marks

Remark

(iii) Explain how heavy rain could affect surface runoff.

[2]

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(e) Study **Table 2** which shows results from a river field trip. Answer the questions which follow.

Examiner Only

Marks

Remark

Table 2

Distance from Source (km)	Width of River Channel (m)	Depth of River Channel (m)	Cross-Sectional Area (m ²)
0.30	0.66	0.07	0.05
1.30	2.50	0.16	0.39
9.00	8.50	0.29	2.47

(i) Using **Table 2** describe the changes in the river channel with increasing distance from the source.

[4]

(ii) Name and explain **one** type of erosion which causes the river channel shape to change along a river.

Type of erosion _____ [1]

Explanation

[3]

(f) Study **Fig. 4** which gives information about flood damage to the town of Morpeth, England, in September 2012. Answer the questions which follow.

The town of Morpeth was badly flooded in September 2012 when the River Wansbeck burst its banks.



© The Journal / NCJ Media / Trinity Mirror



© Minister's pledge on Morpeth flood defences work by Ian Robson. Chronicle Live, 27th September 2012

Why it Happened

- Out-of-date flood defences could not stop the River Wansbeck bursting its banks.
- Hundreds of houses built on the floodplain were flooded.
- Over a month's rainfall (80mm) fell in 48 hours in the worst September storm for 30 years.
- Rainwater quickly filled streams in the Cheviot Hills north of Morpeth. This water then surged into the River Wansbeck flooding the town.

The Human Story

- 100 families fled their homes.
- 40 residents rescued by the emergency services.
- Local shops damaged by flood water and sewage.
- A local B&B was flooded and the owner is worried about the future of the business.

Fig. 4

(i) Explain **one** physical cause of the flooding in Morpeth.

[3]

(ii) Describe fully **one** possible impact of the flood on local people.

[3]

(g) For a named river outside the British Isles, describe methods used to reduce the flood hazard.

River _____ [1]

Methods _____

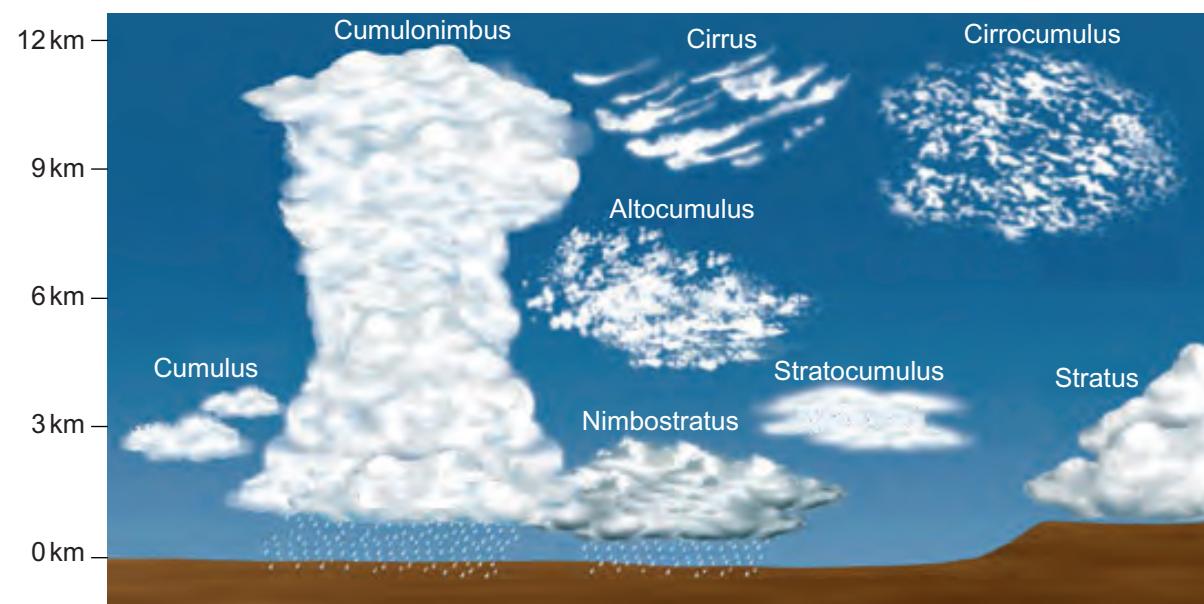
[6]

Spelling, punctuation and accurate use of grammar [4]

Examiner Only	
Marks	Remark

Theme B: Our Changing Weather and Climate

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



Source: <http://www.crh.noaa.gov/images/lmk/CloudChart.jpg>

Fig. 5

(i) Underline the correct word to complete the sentences below. One has been completed for you.

Cumulonimbus/Cirrus clouds bring heavy rain.

Cumulonimbus/Cirrus clouds are thin and wispy in appearance.

Cumulus clouds can reach up to **4/12 km** in height.

Cumulonimbus clouds are found at the **warm/cold** front of a depression. [3]

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

[1]

(iii) Complete **Table 3** by placing the statements in the correct order (1–5) to explain how cumulonimbus clouds bring rain. One has been completed for you.

Table 3

Statement	Correct order
As the warm air rises it cools.	
Water droplets join together to form raindrops.	
Warm tropical air and cold polar air meet in the Atlantic Ocean.	1
Condensation can now occur.	
The warm air rises above the cold air.	

[4]

Examiner Only	
Marks	Remark

(b) Study **Fig. 6** which shows a wind vane. Answer the questions which follow.

Examiner Only	
Marks	Remark



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Fig. 6

(i) Underline the correct weather element that this instrument records.

wind speed cloud cover wind direction

[1]

(ii) Explain how a wind vane works.

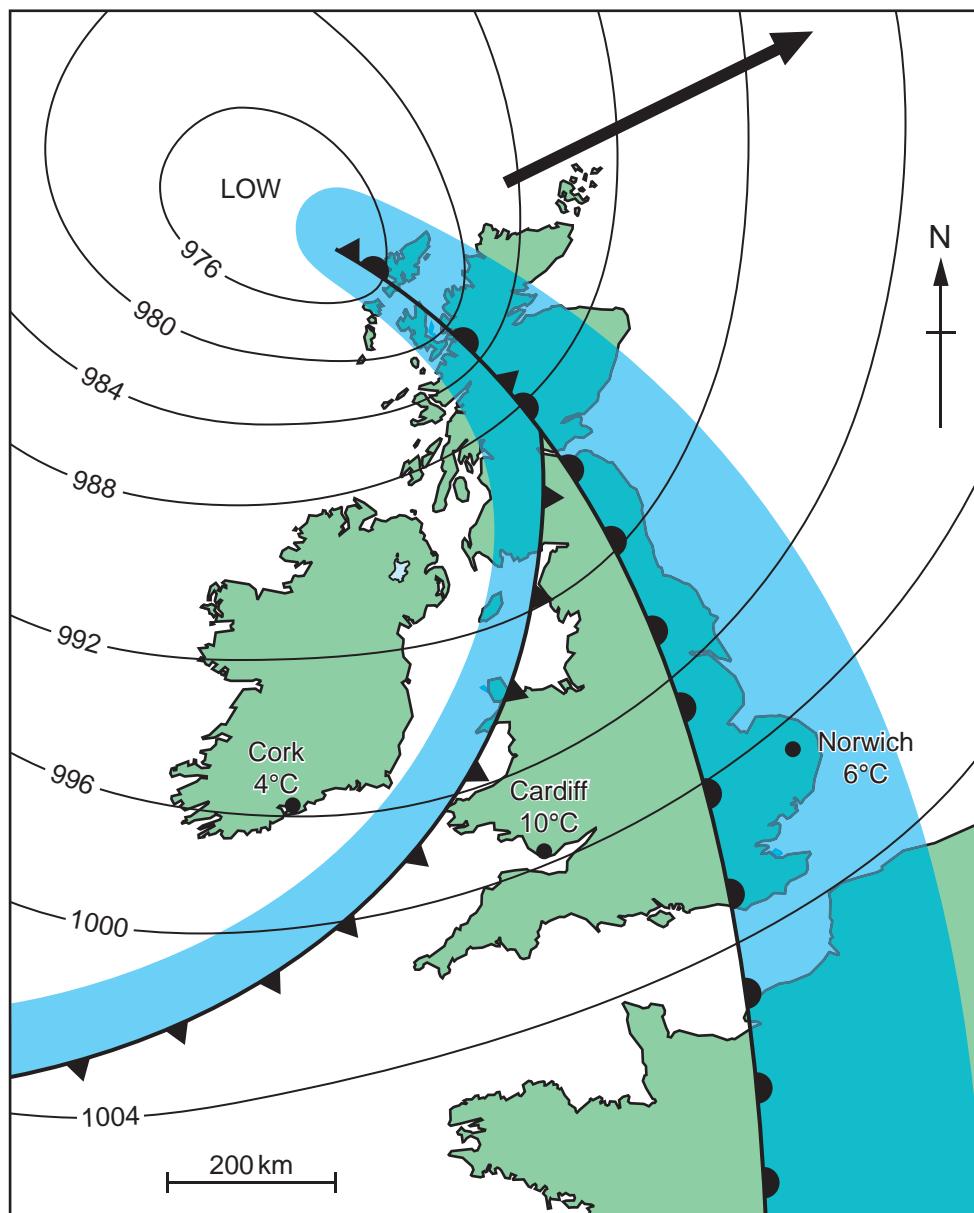
[3]

(iii) Suggest **one** reason why a wind vane needs to be located in a high place.

[2]

Examiner Only	
Marks	Remark

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



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Published by Nelson Thornes, 2000. Page 206 ISBN: 978-0748-75175-4

- Direction of movement of weather system
- 992 — Isobar showing air pressure in millibars
- Warm front
- Cold front
- Occluded front
- Area of rainfall

Fig. 7

(i) Underline the type of weather system shown in **Fig. 7**.

Depression

Anticyclone

Hurricane

[1]

Examiner Only

Marks

Remark

(ii) Using **Fig. 7** to help you, complete **Fig. 8** by drawing the bar for Cork. [2]

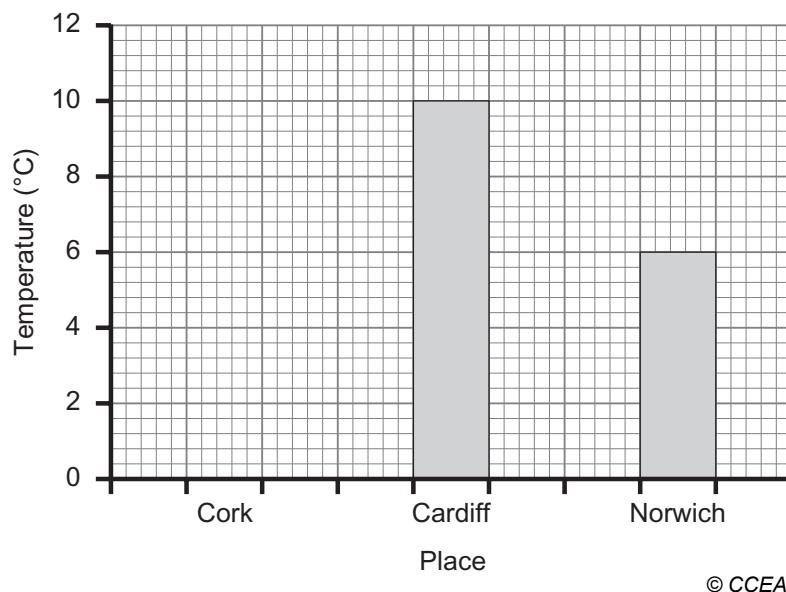


Fig. 8

(iii) Explain why Cardiff has the highest temperature.

[3]

(d) Deforestation of the rainforest is one cause of climate change.

Examiner Only

Marks

Remark

Stop cutting down the trees



© ANTONIO SCORZA / AFP / Getty Images

Explain how reducing deforestation of the rainforest can help deal with climate change. You should refer to a place in your answer.

[5]

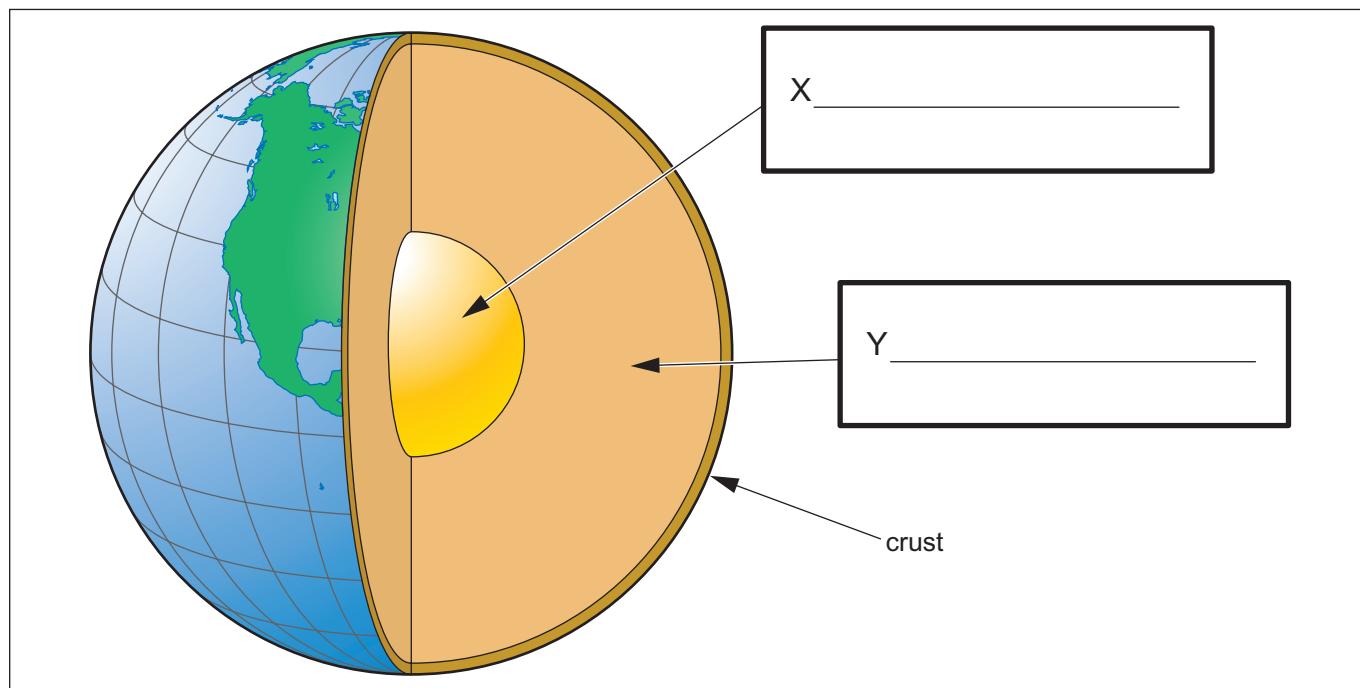
Spelling, punctuation and accurate use of grammar [4]

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(Questions continue overleaf)

Theme C: The Restless Earth

3 (a) Study **Fig. 9** which shows the structure of the Earth. Answer the questions which follow.



© NASA/JPL-Université Paris Diderot - Institute de Physique du Globe de Paris

Fig. 9

(i) Label X and Y on **Fig. 9** to name the two layers.

[2]

Examiner Only	
Marks	Remark

(ii) Complete the sentences below to explain how plates are able to move. Choose your answers from the list below.

convection magma downwards

plates sinks rises

1. The plates of the crust rest on molten _____ in the mantle.
2. _____ currents move molten magma and drag the _____ apart.
3. Magma _____ in the gap to create new crust.
4. Where these currents sink they drag the plates _____ into the mantle so that the rocks of the crust are destroyed.

[5]

Examiner Only	
Marks	Remark

(b) Study **Fig. 10** which shows a destructive plate boundary. Answer the questions which follow.

Examiner Only

Marks

Remark

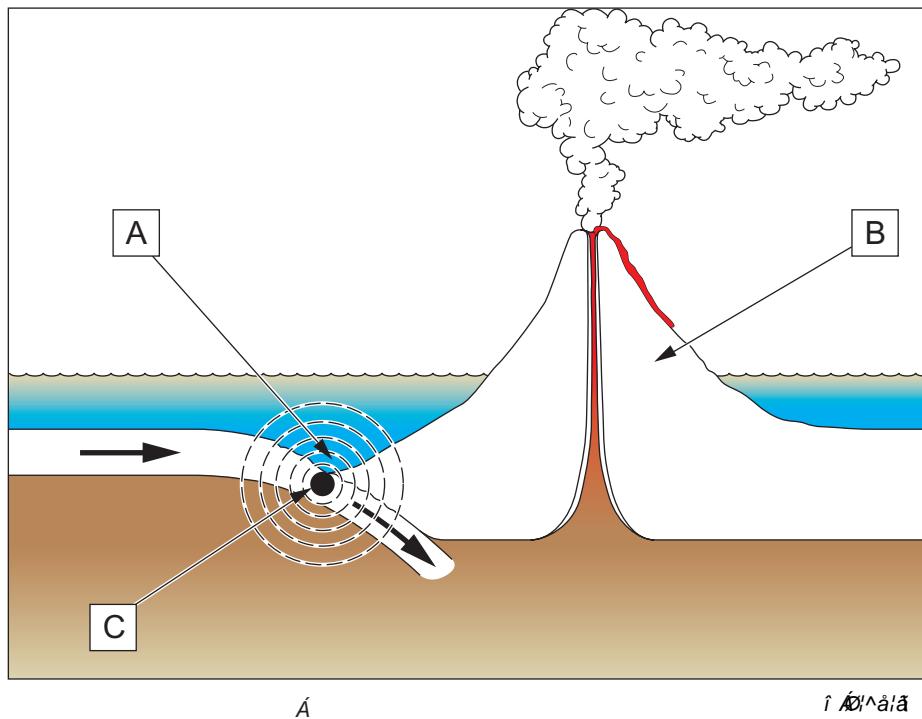


Fig. 10

(i) Identify the following features labelled A, B and C on **Fig. 10**. Choose your answers from the list below.

Volcano Ocean Trench Mantle Earthquake focus

Label	Feature
A	
B	
C	

[3]

(ii) Explain how earthquakes are caused at a destructive plate boundary.

[3]

(c) Earthquakes have many impacts on people and property. Describe **two** impacts of a named earthquake you have studied.

Named location of earthquake _____ [1]

1. _____

[3]

2. _____

[3]

Examiner Only	
Marks	Remark

(d) Fig. 11 shows an area of basalt columns.

Examiner Only	
Marks	Remark



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Fig. 11

Name an area of basalt columns you have studied and explain their formation.

[5]

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