



Rewarding Learning

General Certificate of Secondary Education
2014

Centre Number

71	
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Candidate Number

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Geography

Unit 1:
Understanding Our Natural World
Higher Tier

[GGG12]



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(f)** and **3(c)**.

For Examiner's
use only

Question Number	Marks
1	
2	
3	

Total
Marks

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Theme A: The Dynamic Landscape

Examiner Only

Marks Remark

1 (a) Study the Ordnance Survey extract of part of the Norfolk coast, eastern 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) State the direction of Eccles on Sea GR 4029 from Winterton-on-Sea GR 4919.

_____ [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]

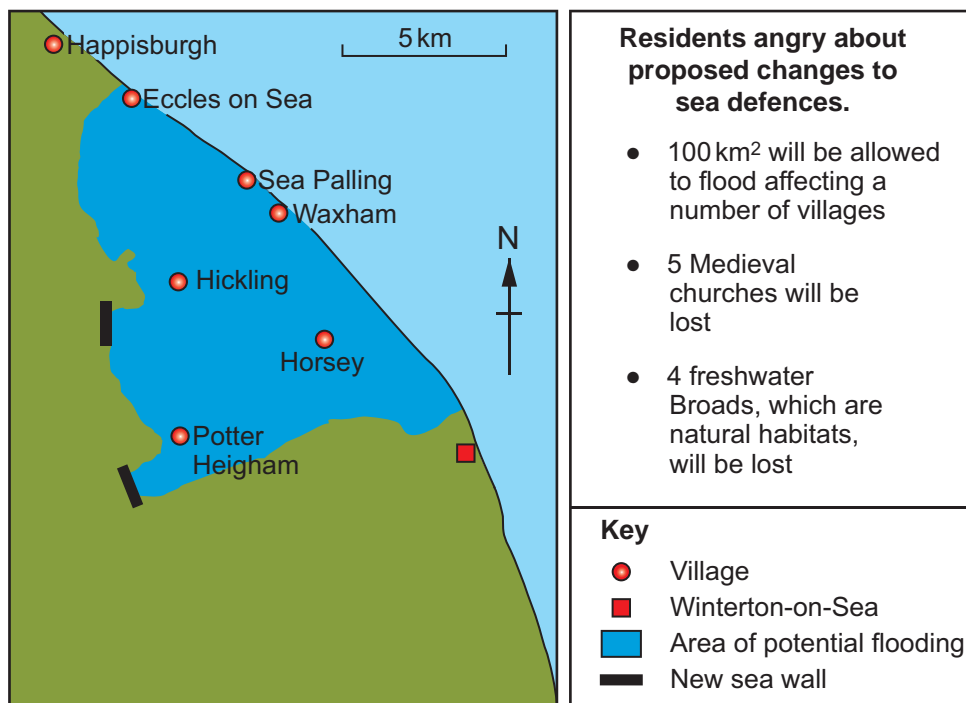
(iv) Blood Hills wind farm (GR 4719) is located 1.5 km west of the popular seaside resort of Winterton-on-Sea (GR 4919). Suggest how the wind farm owners might be in conflict with the local tourist board.



© Photograph by Jon Blathwayt – licensed under the Creative Commons Attribution 2.0 Generic license.

_____ [3]

- (b) It has been stated that 15 km of sea defences between Eccles on Sea (GR 4029) and Winterton-on-Sea (GR 4919) will not be sustainable in fifty years time. Study **Fig. 1** which shows one coastal strategy for this area. Answer the questions which follow.



© Topic Eye A-Level Geography, Cross Academe!

Fig. 1

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

[1]

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

_____ [2]

Examiner Only	
Marks	Remark

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

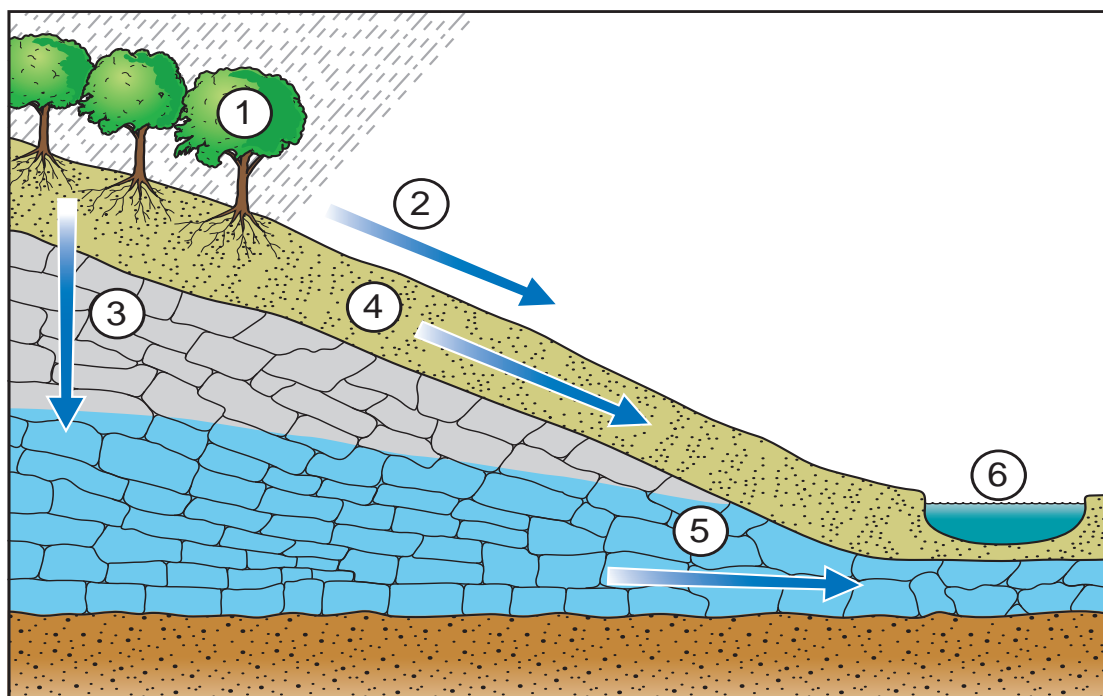
[3]

Examiner Only	
Marks	Remark

(c) Study **Fig. 2** which shows how water moves in a drainage basin. Answer the questions which follow.

Examiner Only

Marks Remark



Source: CCEA

Fig. 2

Table 1

Key	
1	
2	
3	Percolation
4	
5	
6	River

[4]

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

groundwater flow discharge interception watershed
 throughflow surface runoff

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

[2]

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

[3]

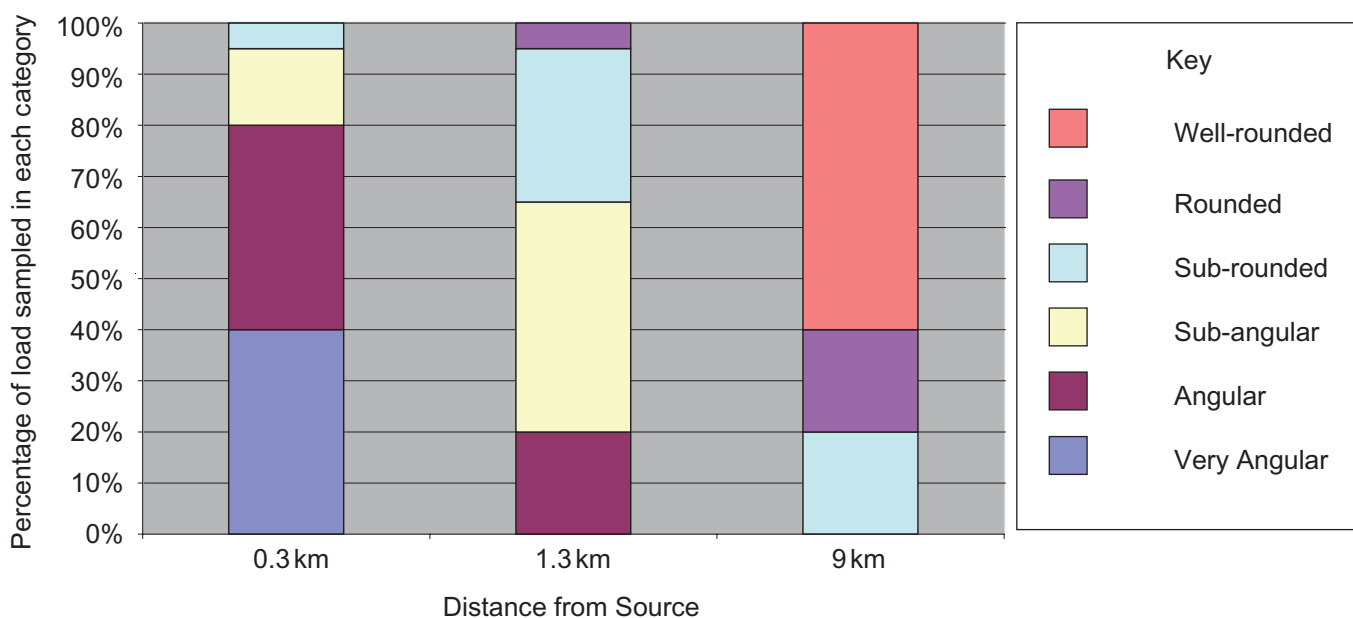
Examiner Only	
Marks	Remark

(d) Study **Table 2** and **Fig. 3** which show results from a river field trip. Answer the questions which follow.

Table 2

Distance from Source (km)	Width of River Channel (m)	Depth of River Channel (m)	Channel Gradient (degrees)	Average size of Load (cm on longest axis)
0.30	0.66	0.07	3	21.2
1.30	2.50	0.16	7.5	27.2
9.00	8.50	0.29	2.5	2.52

Compound Graph Showing Load Shape



Source: Chief Examiner

Fig. 3

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

After devastating floods in 2008 the town of Morpeth was flooded again 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

The Met. Office described the weather as the most intense September storm in 30 years. It was caused by an area of low pressure of 973 millibars over NE England. Heavy rain in the Cheviot Hills to the north of Morpeth resulted in the high discharge in the River Wansbeck. Over a month's rain (80 mm) fell in 48 hours and the town's outdated flood defences could not cope.

After the 2008 floods a £21 million flood barrier was proposed. However this is still at the planning stage.

At the height of the flood:

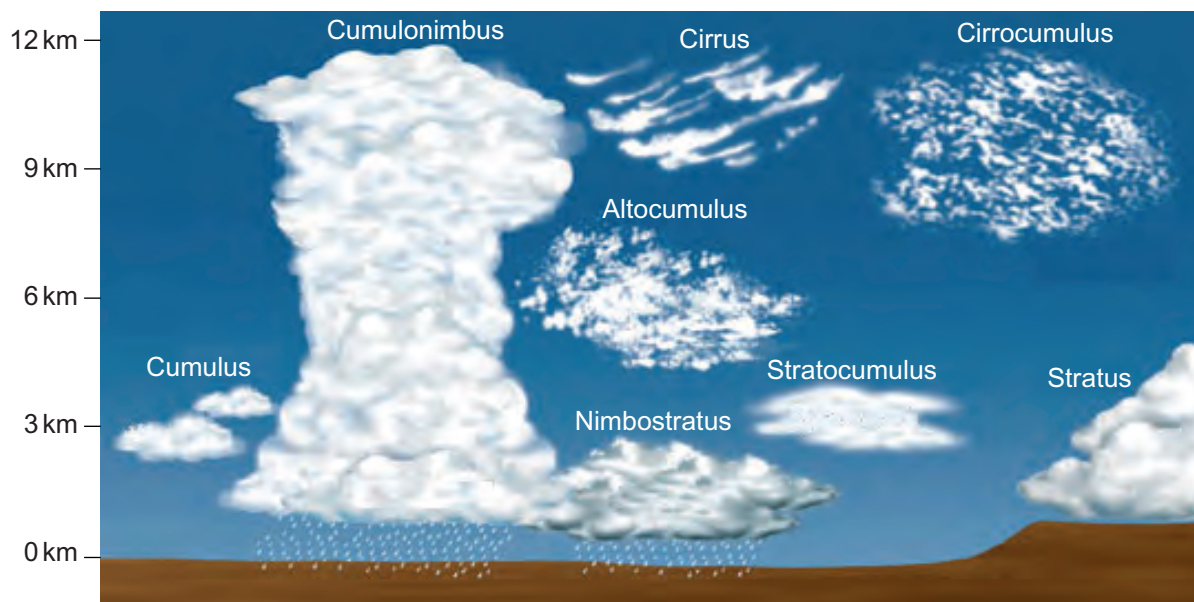
- 100 families fled their homes.
- 40 residents rescued by the emergency services.
- Local businesses were under flood water and sewage.
- A local B&B was flooded and the owner is worried about the future of the business.

Fig. 4

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

[3]

Examiner Only	
Marks	Remark

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(Questions continue overleaf)

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



© 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.

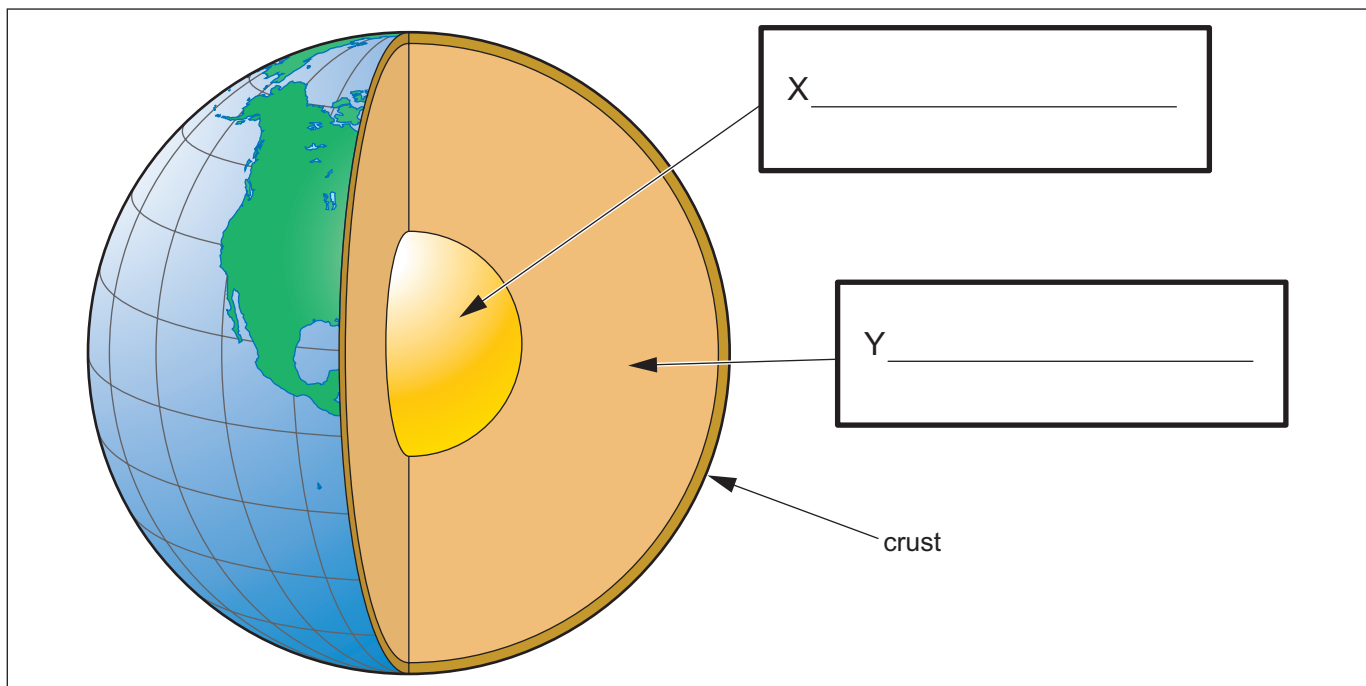
[5]

Examiner Only	
Marks	Remark

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Theme C: The Restless Earth

3 (a) Study Fig. 8 which shows the structure of the Earth. Answer the questions which follow.



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Fig. 8

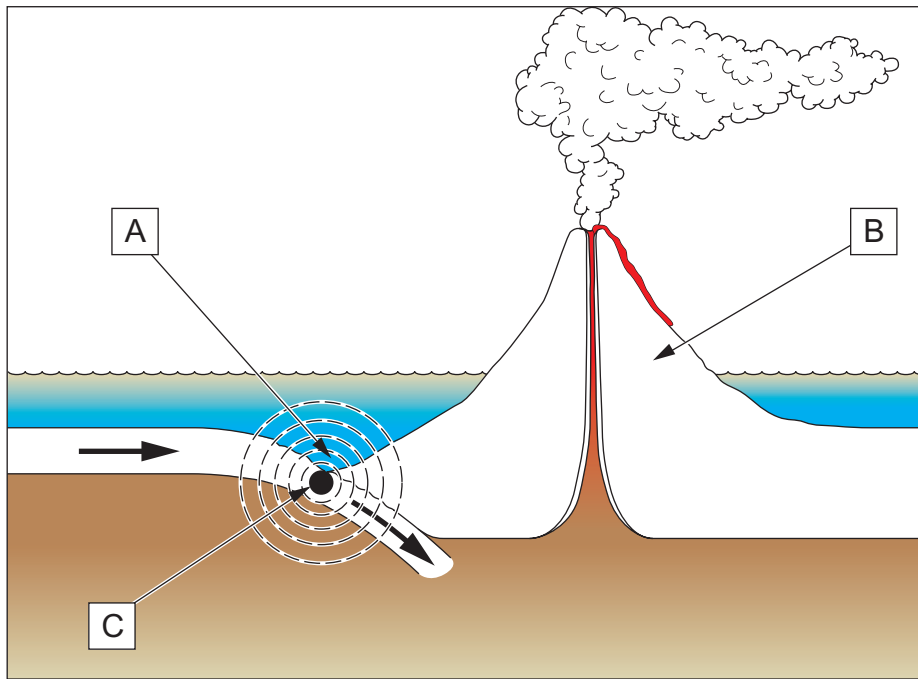
(i) Label X and Y on Fig. 8 to name the two layers. [2]

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

_____ [3]

Examiner Only	
Marks	Remark

(b) Study **Fig. 9** which shows a destructive plate boundary. Answer the questions which follow.



© Fredrik

Fig. 9

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

Label	Feature
A	
B	
C	

[3]

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Marks	Remark

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

[3]

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

[2]

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Marks	Remark

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