



Rewarding Learning

**General Certificate of Secondary Education
2022**

Centre Number

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Candidate Number

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Geography

Unit 1

Understanding Our
Natural World



[GGY11]

GGY11

MONDAY 23 MAY, MORNING

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.

You must answer the questions in the spaces provided.

Do not write outside the boxed area on each page or on blank pages.

Complete in black ink only. **Do not write with a gel pen.**

Answer **all four** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 100.

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 questions **1(e)**, **2(e)** and **4(h)**.



Theme A: River Environments

- 1 (a) The work of a river includes erosion and transportation. Complete **Table 1** by sorting the river processes below into erosion or transportation by drawing an arrow for each. One has been completed for you.

Table 1

Erosion	River Process	Transportation
	Attrition	
	Traction	
	Hydraulic Action	
	Saltation	→

[3]

- (b) State the meaning of the term **deposition**.

[2]



(c) Study **Photograph 1**, which shows a waterfall in Iceland.

Explain how a waterfall is formed.



Source: Principal Examiner

Photograph 1

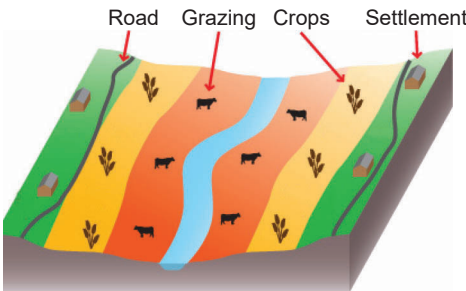
[5]

[Turn over



- (d) Study **Table 2** below, which shows four flood management methods. Answer the questions which follow.
- (i) Complete **Table 2** by identifying each flood management method. One has been completed for you.

Table 2

Flood management method	Name of method
 © Getty Images	
 Source: Principal Examiner	
 © Getty Images	Flood wall
 © Getty Images	

[3]



- (ii) Choose **one** hard engineering method and describe how it helps to manage flooding.

Hard engineering method: _____ [no mark]

[2]

- (iii) Describe **one** way that flooding might impact the environment.

[3]

[Turn over



(e) For a named river outside the British Isles which you have studied, evaluate the sustainability of the river management strategy used to manage its floods.

[illegible]

Extra space:





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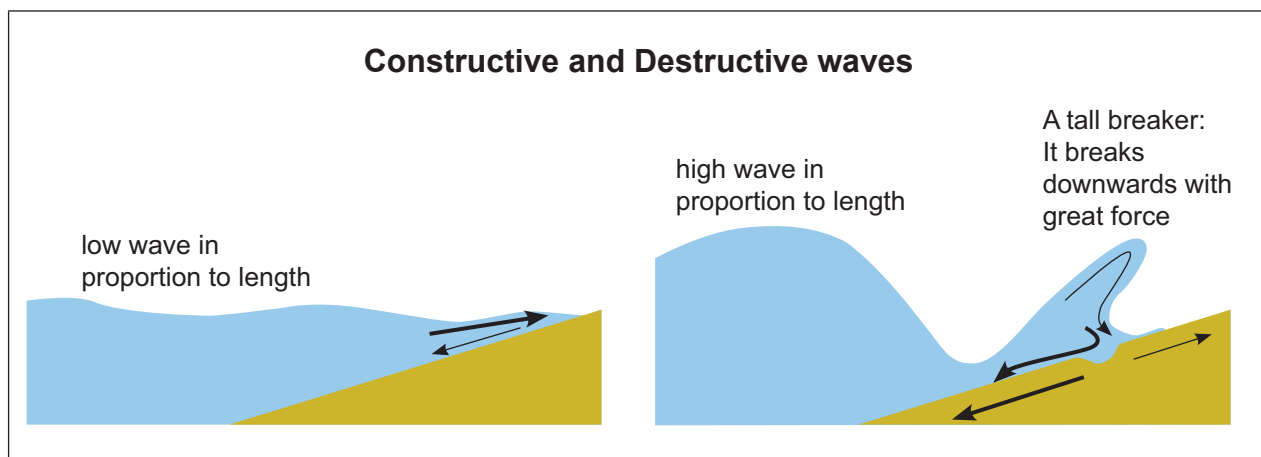
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(Questions continue overleaf)



Theme B: Coastal Environments

2 Study **Fig. 1**, which shows two types of waves. Answer the question which follows.



Source: Principal Examiner

Fig. 1

(a) Underline the correct word to complete the sentences below about coasts and waves.

- Constructive waves have a **strong / weak** swash.
- Destructive waves break at a rate of **5–9 / over 15** per minute.
- A strong backwash **builds up / erodes** a beach.
- **Constructive / Destructive** waves help to form cliffs.

[4]



[5]

[2]

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(d) Study **Fig. 2**, which shows three economically important land uses at the coast. Answer the questions which follow.

Photograph A



Photograph B



Photograph C



Sources: © Getty Images

Fig. 2



- (i) Match each economic land use in **Table 3** to the correct photograph.
One has been completed for you.

Table 3

Economic land use	Photograph
Tourist resort	
Port activity	A
Fishing port	

[2]

- (ii) Explain why coastal areas with ports may require coastal defences both now and in the future.

[4]

[Turn over



(e) Evaluate a coastal management strategy used to protect a named area of coast in a sustainable way in the British Isles.

[illegible]

Extra space:





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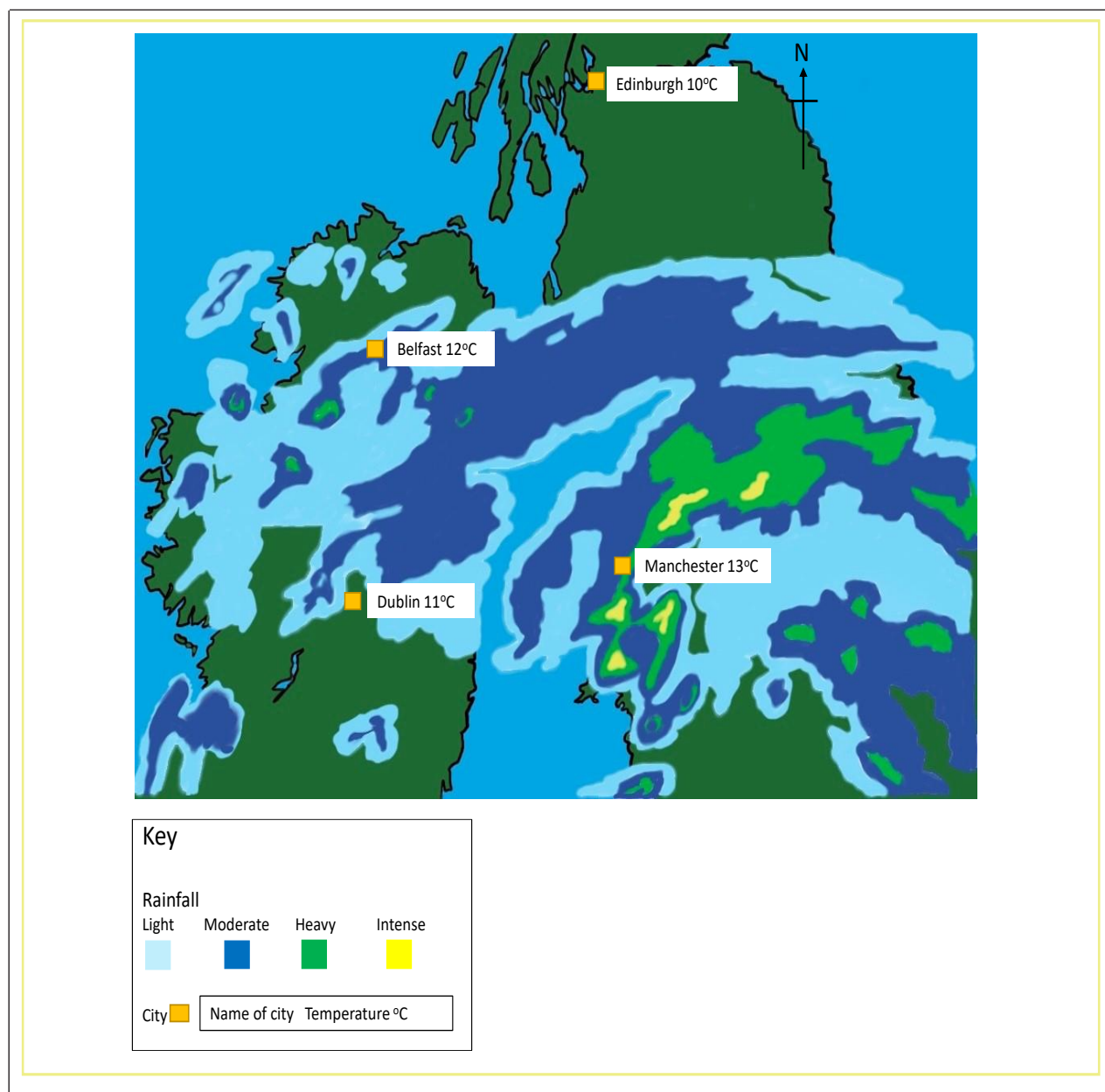
[Turn over



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Theme C: Our Changing Weather and Climate

- 3 (a) Study **Fig. 3**, which shows rainfall occurring over parts of the British Isles. Answer the questions which follow.



Original diagram replaced due to copyright.

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Fig. 3



- (i) Name the city not experiencing rainfall in **Fig. 3**.

_____ [1]

- (ii) Complete **Table 4** by ranking the cities in order of temperature, starting with the lowest temperature. One has been completed for you.

Table 4

City	Rank
Belfast	3
Dublin	
Edinburgh	
Manchester	

[2]

- (iii) Describe how rainfall radar collects information which can then be used in a weather forecast.

[3]

[Turn over



(iv) A geostationary satellite is another source of data for a weather forecast.

State the meaning of the term **geostationary satellite**.

[2]

(b) A tornado is an example of extreme weather. Study **Fig. 4** which gives information on a tornado in the USA. Answer the questions which follow.

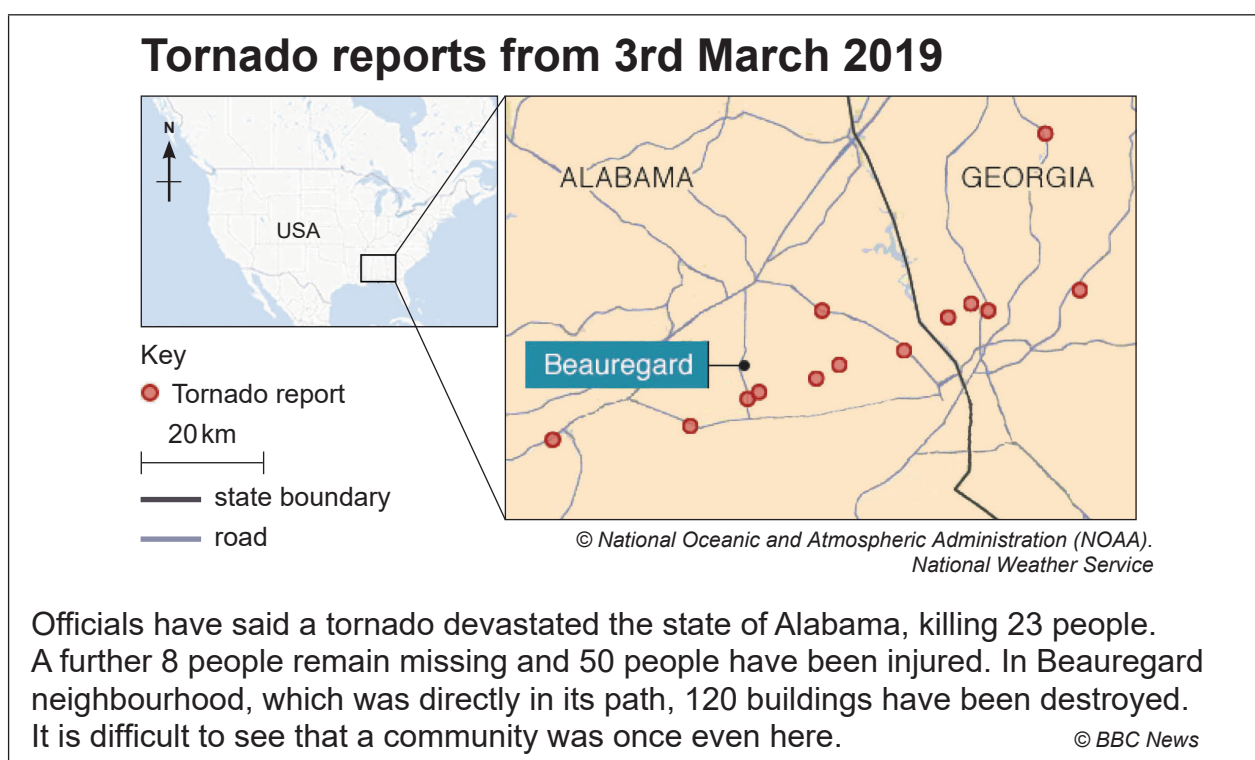


Fig. 4



(i) Using **Fig. 4**, state the number of tornado reports on 3rd March 2019.

_____ [1]

(ii) Underline the total number of people who have been affected by this tornado as shown in **Fig. 4**.

8 23 81 150 [1]

(iii) Using **Fig. 4**, state **one** impact this tornado had on property.

_____ [1]

(c) Anticyclones occur in winter and summer. Complete **Table 5** by writing the word SIMILAR or DIFFERENT to compare the weather characteristics of summer and winter anticyclones. One has been completed for you.

Table 5

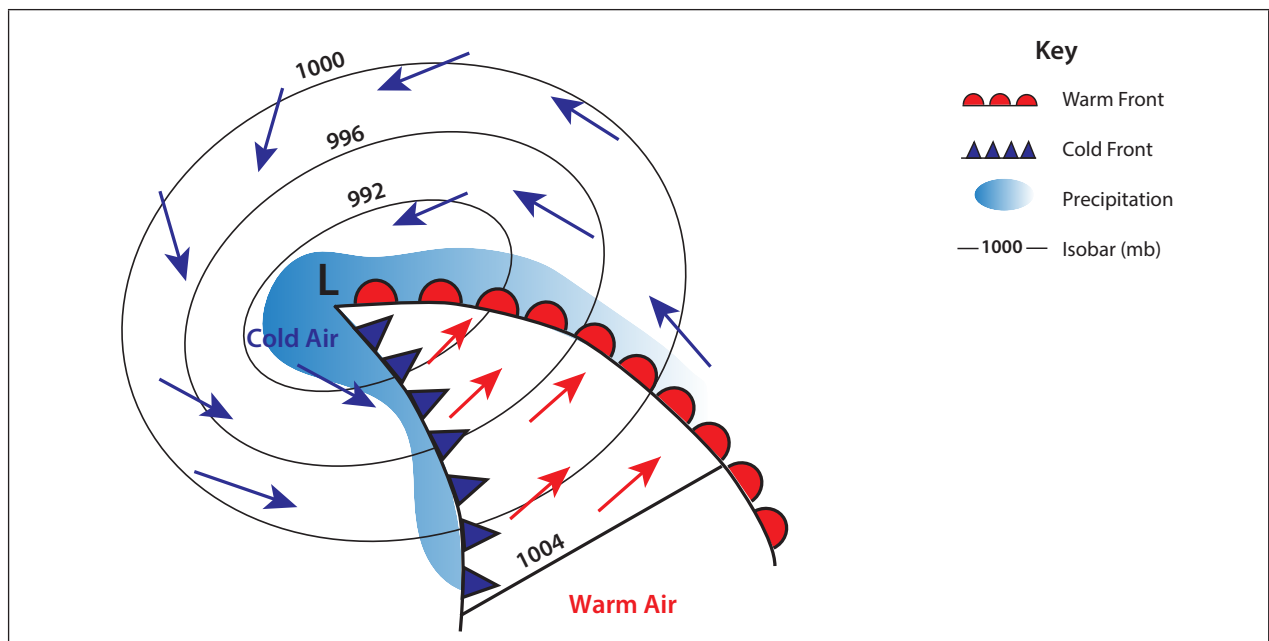
Weather characteristic	SIMILAR / DIFFERENT
Temperature	
Wind speed	
Rainfall	
Air mass influencing it	DIFFERENT

[3]

[Turn over



(d) Study **Fig. 5**, which shows a frontal depression or low pressure system. Answer the questions which follow.



Original diagram replaced due to copyright.

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Fig. 5

(i) Underline the correct word to complete the sentences below relating to low pressure systems.

- Low pressure systems have air pressures which are **above / below** 1013 millibars.
- The warm sector has the **highest / lowest** temperatures within a low pressure system.
- Winds blow **anticlockwise / clockwise** in a low pressure system.

[3]



(ii) Explain why rainfall occurs at the warm front.

[3]

(e) Explain how prevailing winds can affect the climate.

[5]

[Turn over



Theme D: The Restless Earth

- 4 (a) The structure of the earth is composed of four different layers. Complete **Fig. 6** by drawing a line to join each layer to its correct description. One has been completed for you.

Layer of the Earth		Description
Inner Core	•	The thinnest and outer layer of the earth.
Outer Core	•	
Mantle	•	Liquid layer with temperatures between 4000 and 6000 °C.
Crust	•	This is the widest layer of the earth.

Fig. 6

[3]

- (b) Plates are always moving due to a process within the earth's mantle. State the process which causes plates to move.

[1]



(c) Explain the formation of an **ocean trench** at a destructive plate boundary.

[4]

(d) State the meaning of the term **Richter scale**.

[2]

[Turn over

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(e) Describe the differences between a shield and a composite volcano.

[3]

(f) Name two examples of a metamorphic rock.

1.

2.

[2]

(g) Describe **one** potential impact on people if a supervolcano which you have studied erupted.

[3]



[illegible]

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Question Number	Marks
1	
2	
3	
4	

Total Marks	
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Examiner Number

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