



Rewarding Learning

General Certificate of Secondary Education
2024

Centre Number

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Candidate Number

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Geography

Unit 1

Understanding Our
Natural World



[GGY11]

GGY11

FRIDAY 17 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.

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.

You are provided with an O.S. map for use with **Question 2**.

Do **not** write your answers on this map.

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)**, **3(e)** and **4(f)**.



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Theme A: River Environments

- 1 (a) A drainage basin has many features. Answer the question which follows.

Complete **Table 1** by matching each geographical term with the correct definition. One has been completed for you.

Table 1

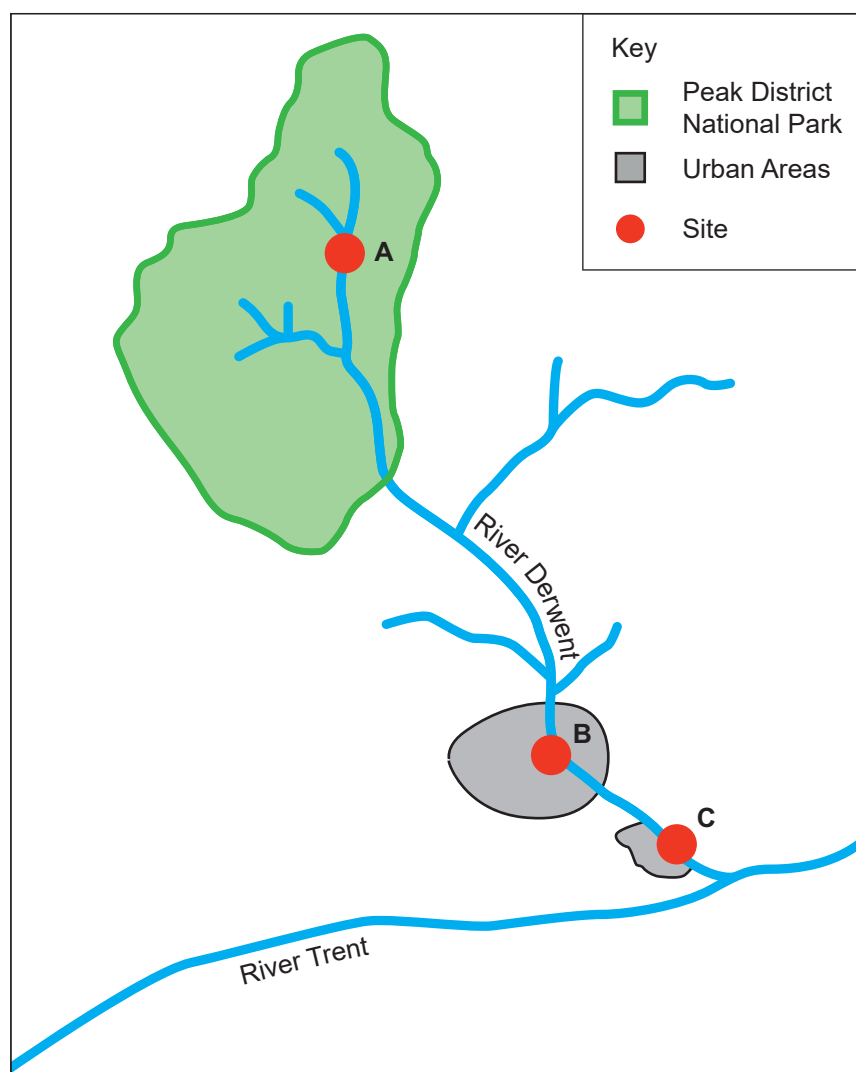
Source	•	•	A boundary which separates one drainage basin from another
Watershed	•	•	The end of a river where it meets the sea, ocean or lake
River mouth	•	•	Where a river begins; this is usually in mountainous locations

[2]

[Turn over



(b) Study **Fig. 1** which shows discharge levels at three sites on the River Derwent. Answer the questions which follow.



Source: Principal Examiner

Site	Discharge levels
A – Yorkshire Bridge	0.78 cumecs
B – Derby	4.9 cumecs
C – Church Wilne	5.11 cumecs

"Data from Hydrology Data Explorer. Department for Environment Food & Rural Affairs
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© Crown Copyright 2024"

Fig. 1



[2]

[illegible]

[5]

14199



28GGY1105

(c) River processes shape many features found along the river. Complete **Table 2** by drawing an arrow to show whether each river feature listed has been formed by erosion or deposition. One has been completed for you.

Table 2

Formed by Erosion	River Feature	Formed by Deposition
	Waterfall	
	Levee	
	Slip-off slope	
	River cliff	
	Floodplain	

[4]

(d) With reference to a named river in the British Isles, explain **one** physical reason why it flooded.

[4]



[illegible]

[8]

[Turn over

14199



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Theme B: Coastal Environments

- 2 (a)** Study the Ordnance Survey extract of part of the coast at Aberdeen, Scotland and answer the questions which follow.

- (i)** State the height of the land shown by the triangulation pillar west of the beach at GR 9507.

_____ m [1]

- (ii)** State the straight line distance between the amusement park GR 953067 and the picnic site at GR 965035.

_____ km [2]

- (iii)** State the direction of the nature reserve GR 9302 from Duthie Park GR 9304.

_____ [1]

- (iv)** Estimate the approximate area of coniferous wood found mainly in GR 8998. Underline your answer in the list below.

0.5 km²

1.0 km²

2.0 km²

[1]



- (v) Much of the coastline on the map extract has been shaped by destructive waves. Complete **Table 3** by placing a tick (✓) opposite **three** correct statements about destructive waves.

Table 3

Statement about destructive waves	Tick (✓) three correct statements
They have a strong backwash compared to their swash.	
They are long in relation to their height.	
They are frequent waves (break at a rate of 15 per minute).	
They have strong erosive power.	
They are more common in springtime.	

[3]

- (vi) Aberdeen beach extends 3.5 km from the mouth of the River Don in the North, GR 9509, to the River Dee and Aberdeen Harbour, GR 9505. Using map evidence **only**, identify **three** reasons for coastal defences along this beach.

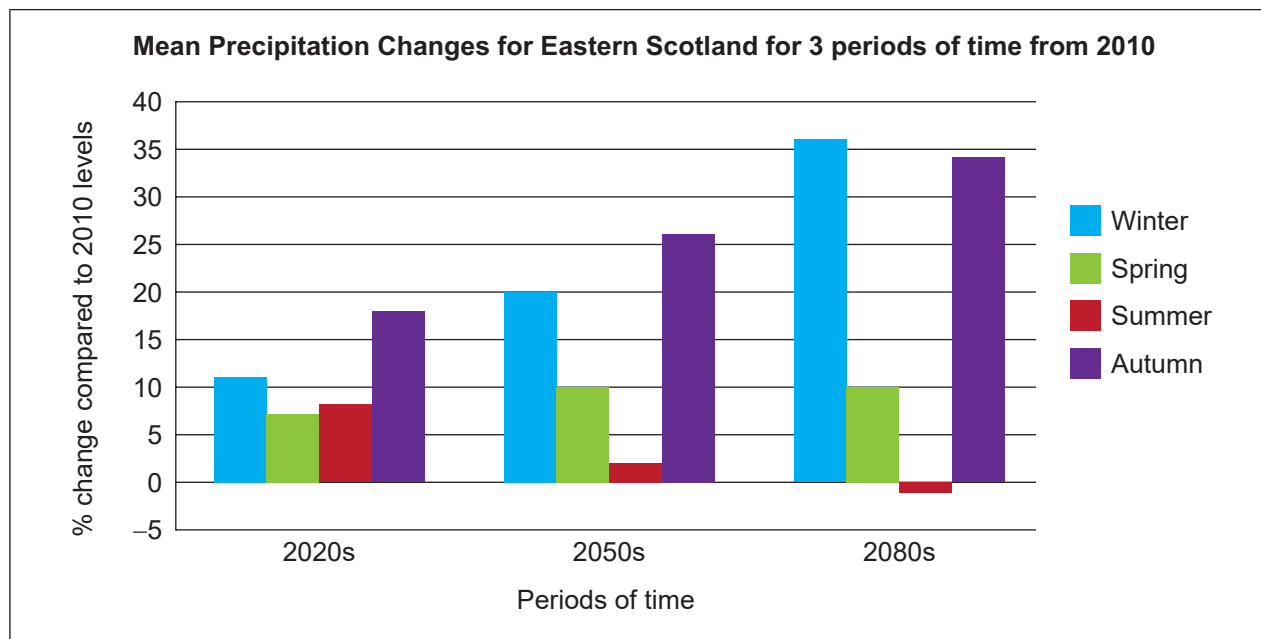
1. _____
2. _____
3. _____

[3]

[Turn over



- (c) Future climate change with more extreme weather is predicted to threaten the Aberdeen coastline. Study **Fig. 2** which shows some information about predicted precipitation change in this area and answer the questions which follow.



Aberdeen Beach Case Study by Geosciences department © University of Aberdeen

Fig. 2

- (i) Describe the predicted changes in precipitation over time as shown in **Fig. 2**.

[3]

[Turn over



(ii) Describe briefly **one** other way, apart from more extreme weather, in which climate change could affect the coastline.

[2]

(d) A spit is an example of a depositional coastal landform. List **three** conditions which are necessary for a spit to form.

1.

2.

3.

[3]





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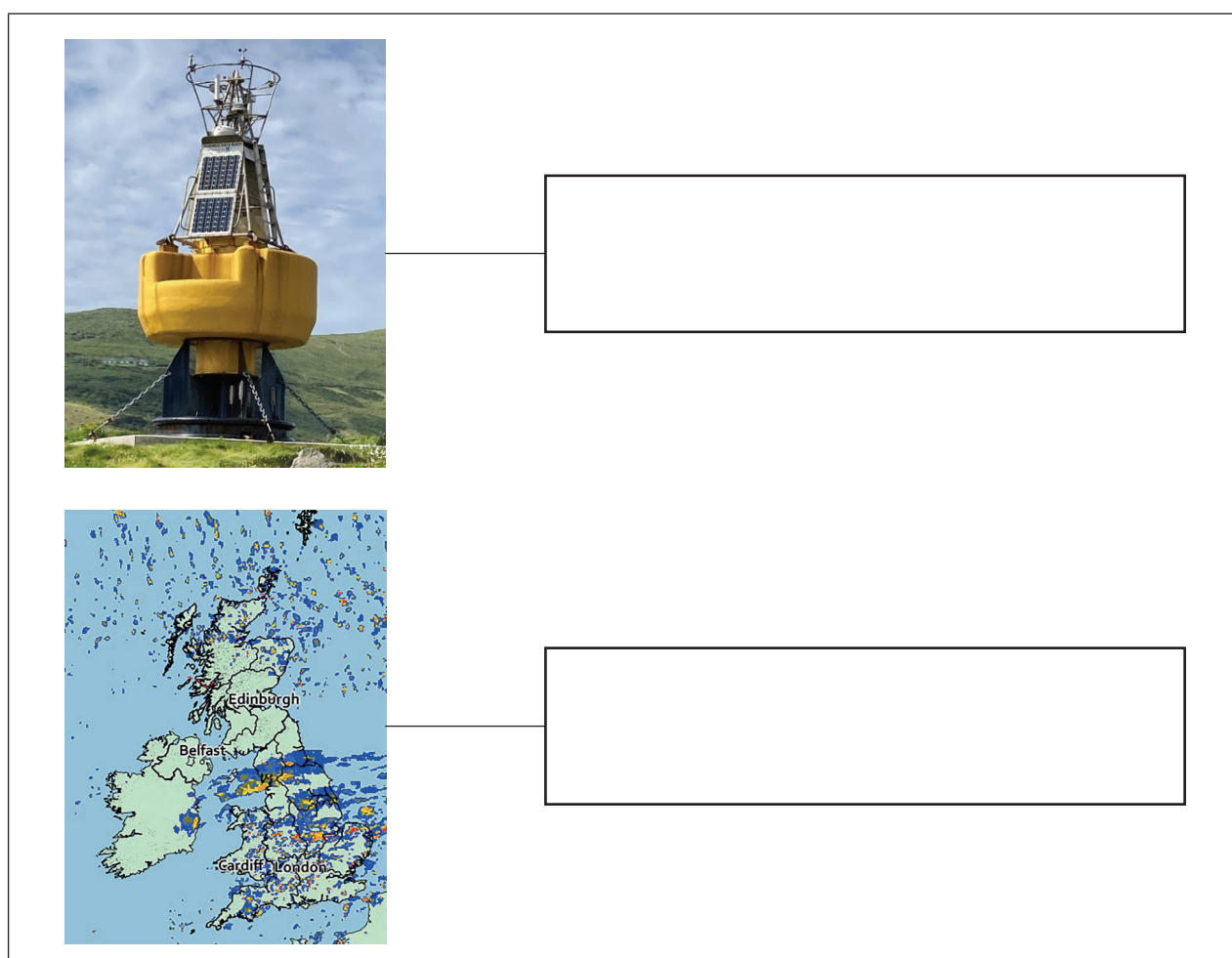
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(Questions continue overleaf)



Theme C: Our Changing Weather and Climate

- 3 (a) Study **Fig. 3** which shows two sources of data for a weather forecast. Answer the questions which follow.



Map: © Crown copyright, Met Office

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Fig. 3

- (i) Complete **Fig. 3** by naming the correct source of data for a weather forecast in the boxes provided. Choose from the words below.

Satellite

Rainfall radar

Land-based weather station

[2]



- (ii) Study **Table 4** which shows the number of land-based weather stations in each country of the United Kingdom.

Table 4

Country	Number of land-based weather stations
England	230
Scotland	120
Wales	50
Northern Ireland	30

Using the data in **Table 4**, complete **Fig. 4** by drawing the correct bar for Northern Ireland.

[2]

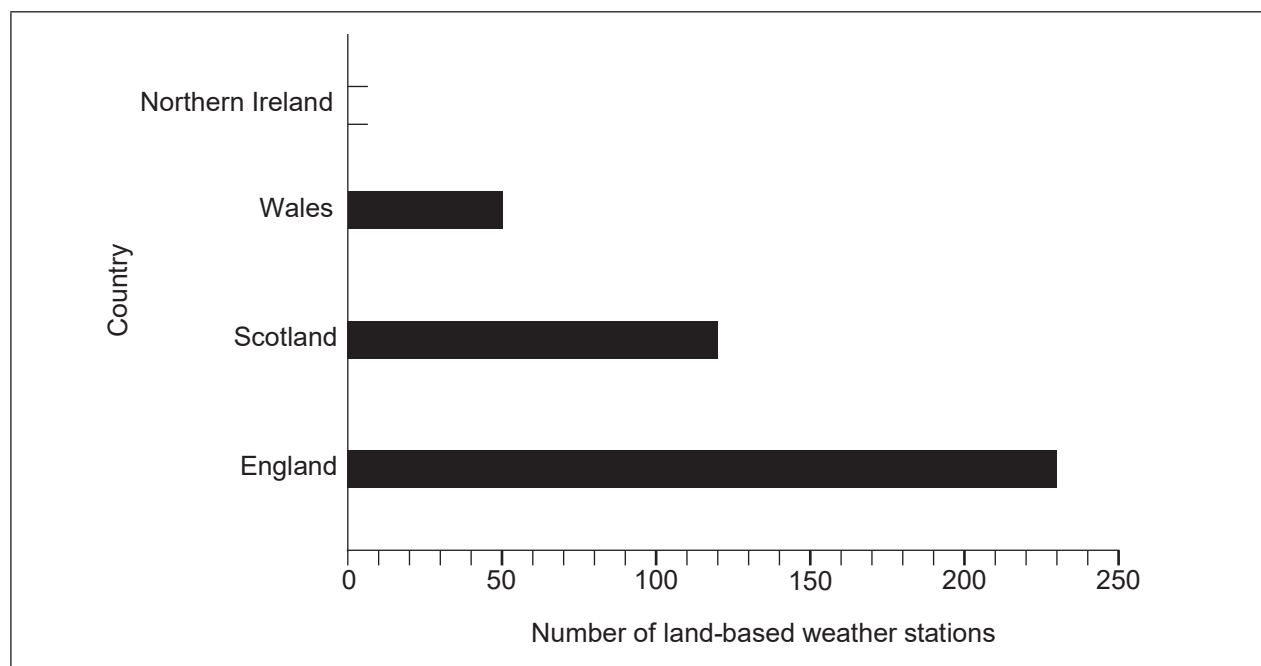


Fig. 4

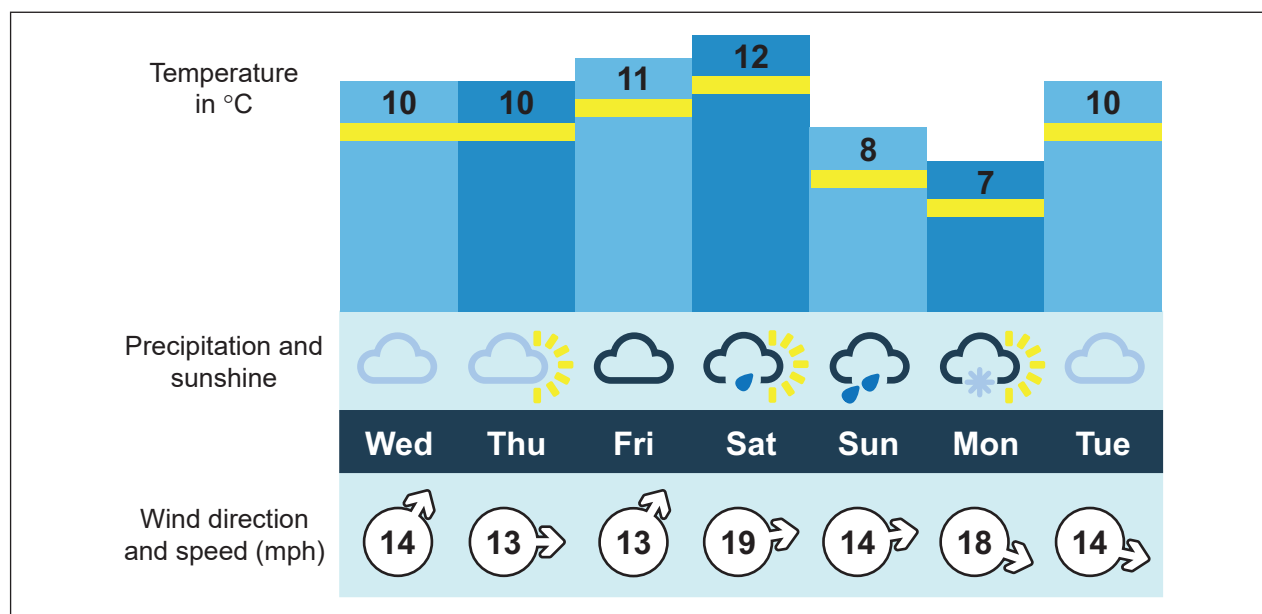
- (iii) State the total number of land-based weather stations in the United Kingdom.

[1]

[Turn over



- (b) Study **Fig. 5** which shows a weather forecast. Answer the questions which follow.



Source: Principal Examiner

Fig. 5

- (i) Using the information in **Fig. 5**, complete **Table 5** by inserting the correct day of the week. One has been completed for you.

Table 5

Weather experienced	Day of the week
Highest temperature	
Snow expected	
A wind speed of 13mph with the wind coming from the north east	Friday
10°C with sunshine and cloud	

[3]



(ii) Describe **one** limitation of forecasting the weather.

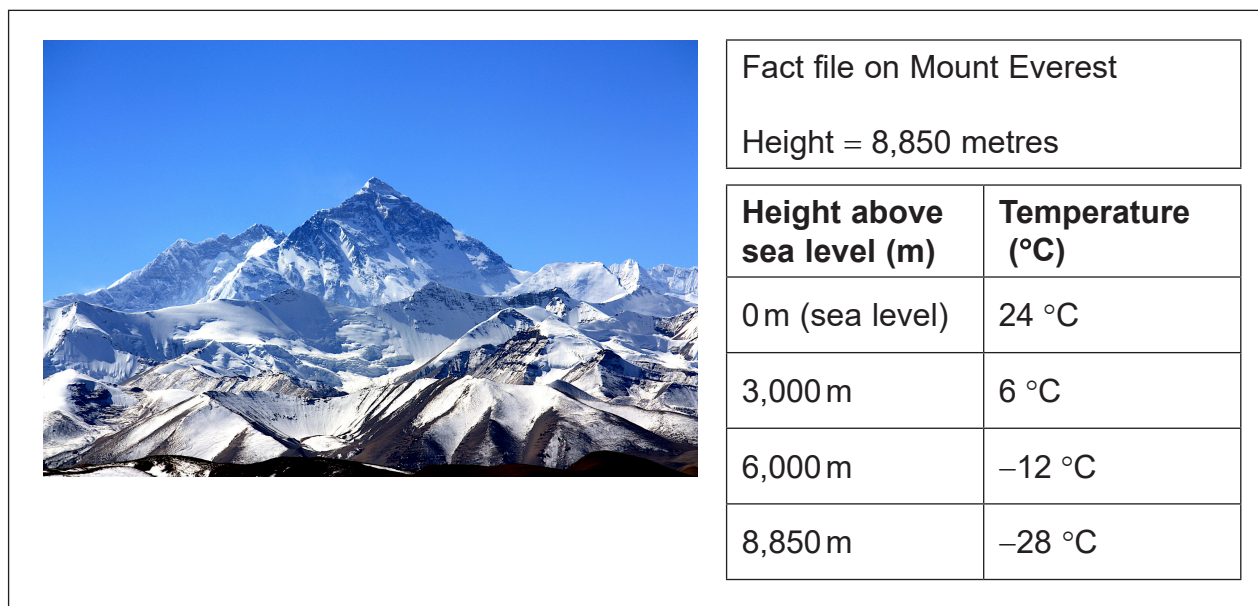
[2]

[Turn over



(c) Mountains (altitude) can affect temperature.

Study **Fig. 6**, which shows Mount Everest. Answer the question which follows.



© Getty Images

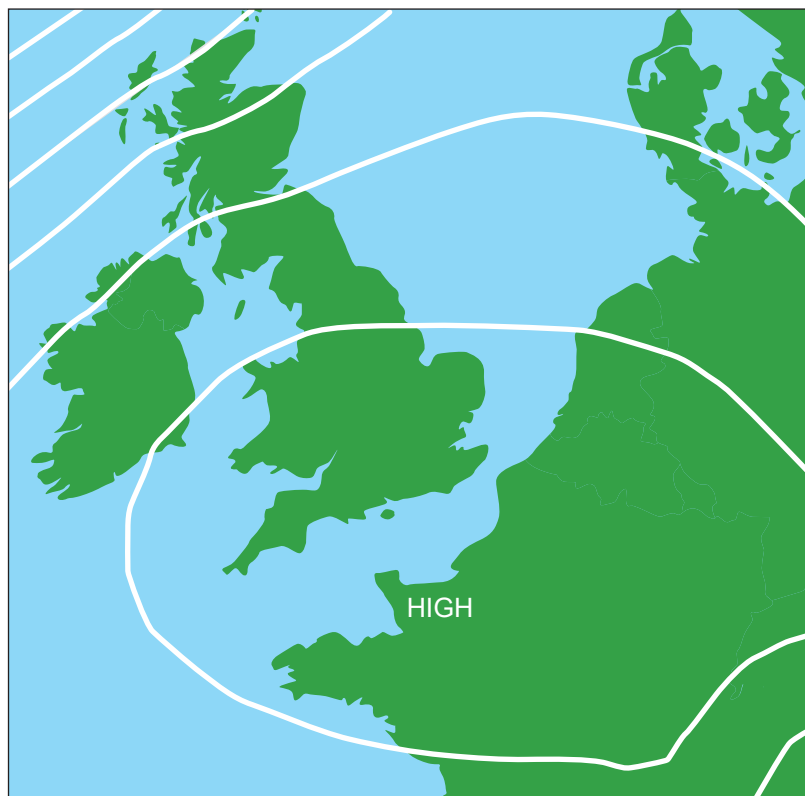
Fig. 6

Using **Fig. 6** to help you, describe and explain how altitude influences temperature.

[5]



- (d) Study **Fig. 7** which shows an anticyclone over the British Isles on a day in January 2022. Answer the questions which follow.



Source: Principal Examiner

Fig. 7

- (i) Using **Fig. 7** suggest three weather characteristics/elements (other than high pressure) expected on this day.

1. _____
2. _____
3. _____ [3]

- (ii) Name **one** other type of weather system that can affect the British Isles.

_____ [1]

[Turn over



(e) With reference to your case study of an extreme weather event outside the British Isles which you have studied (tornado, drought or hurricane), describe the impacts this event had upon people.

[6]



Theme D: The Restless Earth

4 (a) Rocks are usually grouped into three different types.

Complete **Table 6** below by naming the correct type of rock and give **one** example of this rock. One has been completed for you.

Table 6

How rock was formed	Rock type	Named example
Rocks that are formed by sediments that have been built up over a long time, usually under water.	Sedimentary rock	Limestone
Rocks that are formed by the cooling and solidifying of molten rock or lava.		
Rocks that have been changed due to pressure or heat.		

[4]

[Turn over



- (b) Study **Fig. 8** which shows the global distribution of earthquake zones. Answer the question which follows.

Global distribution of earthquake zones

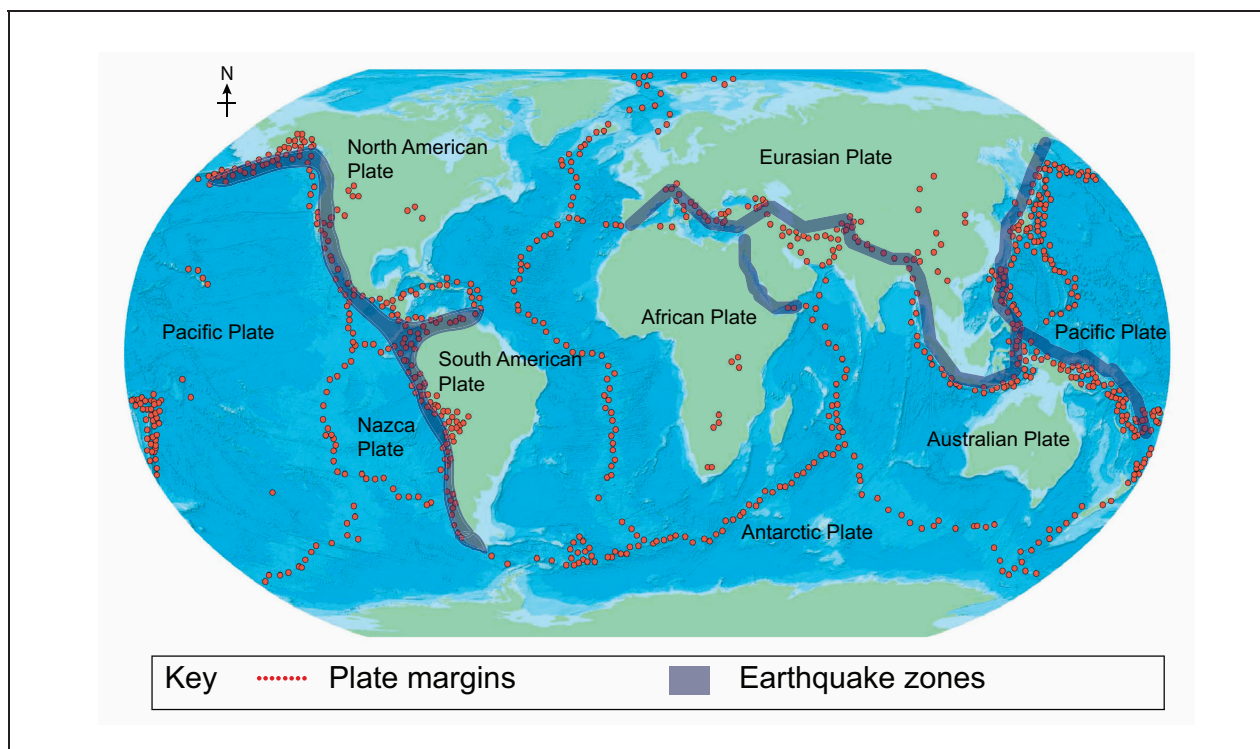


Fig. 8

© Getty Images

Describe the global distribution of earthquake zones shown on **Fig. 8**, referring to places in your answer.

[4]



(c) Explain why volcanoes might be found at constructive plate boundaries.

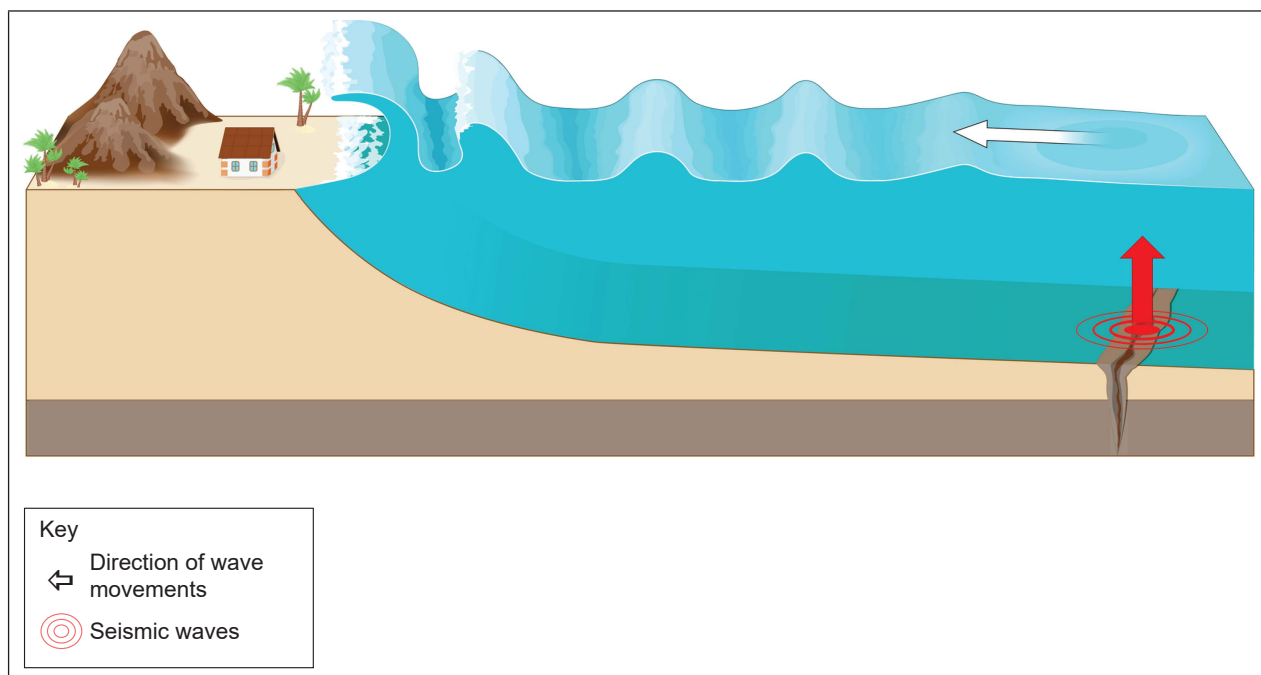
[4]

[Turn over



(d) One physical consequence of an earthquake is a tsunami.

Study **Fig. 9**, which shows a diagram of a tsunami. Answer the question which follows.



© Getty Images

Fig. 9

Describe how a tsunami might impact people and property.

[3]



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

[3]

[Turn over

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THIS IS THE END OF THE QUESTION PAPER



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Question Number	Marks
1	
2	
3	
4	

Total Marks	
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Examiner Number

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GGY11/6
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Summer 2024

ROADS AND PATHS Not necessarily rights of way

Service area Junction number Elevated

M1 Unfenced

A 470 Dual carriageway

A 493 Footbridge

B 4518

A 855 Bridge B 885

Road under construction

Secondary road

Narrow road with passing places

Road generally more than 4m wide

Road generally less than 4m wide

Path / Other road, drive or track

Gradient: steeper than 20% (1 in 5), 14% to 20% (1 in 7 to 1 in 5)

Gates, Road tunnel

Ferry P Ferry V

Ferry (passenger), Ferry (vehicle)

RAILWAYS

Track multiple or single

Track under construction

Siding

Tunnel, cuttings

Narrow gauge, tramway or light rail system

Bridges, footbridge

Level crossing

Viaduct, embankment

Station, (a) principal

Light rail station

WATER FEATURES

Marsh or salting

Towpath

Lock

Slopes

Cliff

Shingle

Aqueduct

Canal

Ford

Beacon

Flat rock

Lighthouse (in use)

Lighthouse (disused)

Low water mark

High water mark

Canal (dry)

HEIGHTS 1 metre = 3.2808 feet

Contours are at 10 metres vertical interval

Heights are to the nearest metre above mean sea level

Where two heights are shown, the first is the height of the natural ground in the location of the triangulation pillar, and the second (in brackets) to a separate point which is the natural summit.

PUBLIC RIGHTS OF WAY

Footpath

Bridleway

Restricted byway (not for use by mechanically propelled vehicles)

Byway open to all traffic

The symbols show the defined route so far as the scale of mapping will allow.

The representation on this map of any other road, track or path is no evidence of the existence of a right of way. Not shown on maps of Scotland.

Danger Area Firing and Test Ranges in the area. Danger! Observe warning notices.

BOUNDARIES

National

District

County, Unitary Authority, Metropolitan District or London Borough

National Park

ANTIQUITIES

Site of antiquity

Site of battle (with date)

Visible earthwork

ROMAN

Non-Roman

TOURIST INFORMATION

Camp site / caravan site

Garden / arboretum

Golf course or links

Information centre (all year / seasonal)

Nature reserve

Parking, Park and ride (all year / seasonal)

Picnic site

Recreation / leisure / sports centre

Selected places of tourist interest

Phone, public / emergency

Viewpoint

Visitor centre

Walks / Trails

World Heritage site or area

Youth hostel

LAND FEATURES

Electricity transmission line (pylons shown at standard spacing)

Pipe line (arrow indicates direction of flow)

Buildings

Important building (selected)

Bus or coach station

Current or former place of worship

Place of worship

Glass structure

Helipoint

Triangulation pillar

Mast

Wind pump, Wind turbine

Windmill with or without sails

Graticule intersection at 5' intervals

Cutting, embankment

Landfill site or slag/spoil heap

Coniferous wood

Non-coniferous wood

Mixed wood

Orchard

Park or ornamental ground

Solar farm (when not described)

Access land (symbols indicate owner or agency - see below)

Forestry and Land Scotland, Forestry England

Natural Resources Wales

National Trust; always open, limited access - observe local signs

National Trust for Scotland; always open, limited access - observe local signs

ABBREVIATIONS

Br Bridge

Cem Cemetery

CG Cattle grid

CH Clubhouse

Fm Farm

Ho House

Hospl Hospital

MP Milepost

MS Milestone

Mus Museum

P Post office

PC Public convenience (in rural areas)

PH Public house

Sch School

TH Town Hall, Guildhall or equivalent

Univ University

