



Rewarding Learning

General Certificate of Secondary Education
2019

Centre Number

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Candidate Number

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Geography

Unit 1

Understanding Our
Natural World



[GGY11]

GGY11

TUESDAY 21 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 **Questions 1 and 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(d)**, **2(c)** and **3(e)**.



Theme A: River Environments

- 1 (a) Study the Ordnance Survey extract of part of the North East of Scotland and answer the questions which follow.

- (i) Complete **Table 1** by naming the land use found at the grid references given.

Table 1

Grid reference	Land use
362730	
345665	

[2]

- (ii) Name **one** loch found on the Ordnance Survey map.

[1]

- (iii) State the meaning of the term **drainage basin**.

[2]



(b) Study **Fig. 1** which is a sketch map of part of the Ordnance Survey map.

(i) Complete the sketch map by labelling the characteristics of the drainage basin shown in the boxes provided. One has been completed for you.

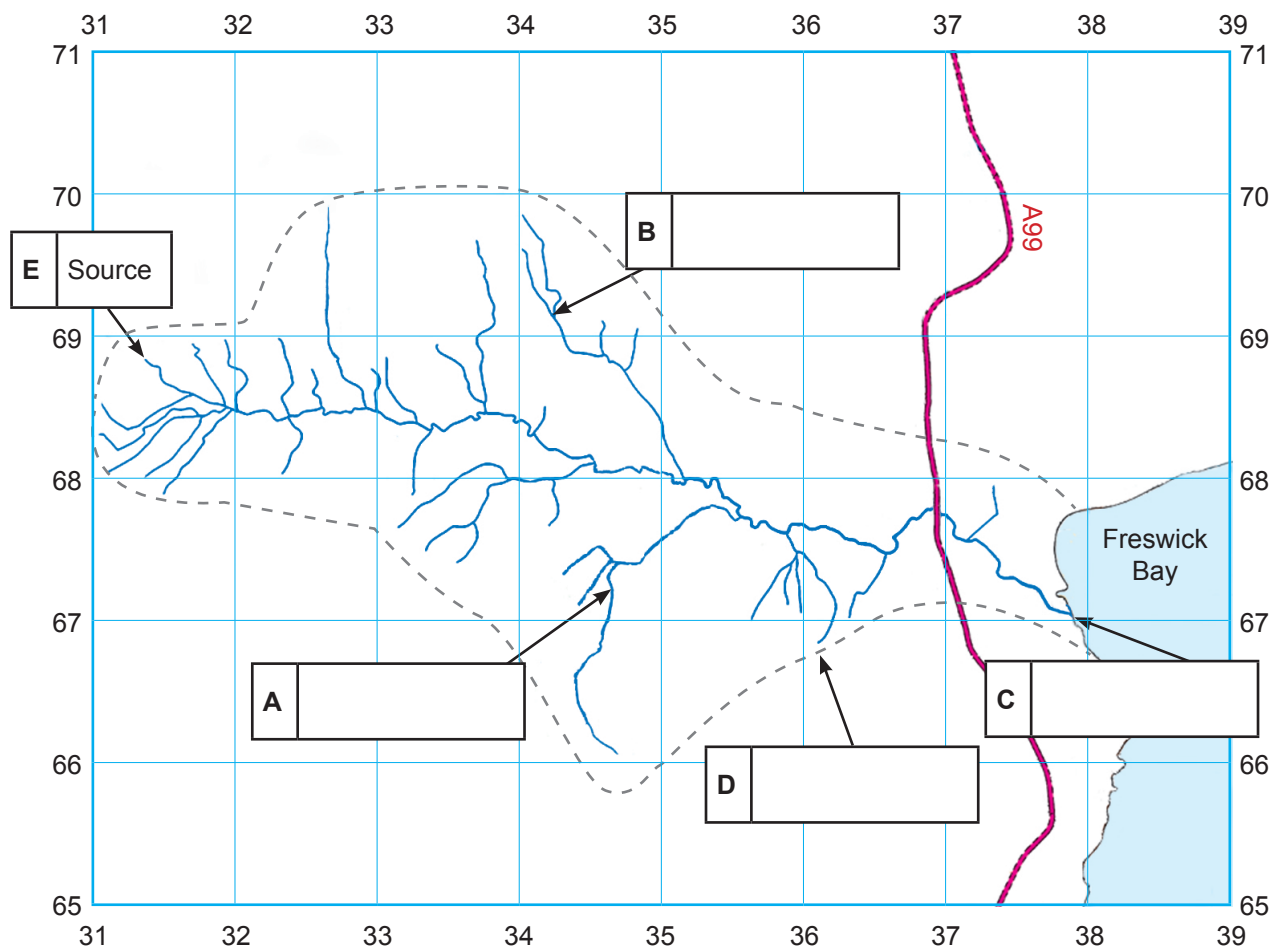


Fig. 1

© Ordnance Survey - Crown Copyright

[4]

(ii) Name the main river shown in the sketch map.

_____ [1]

(iii) Underline the direction of flow of the main river.

WEST

SOUTH

SOUTH-EAST

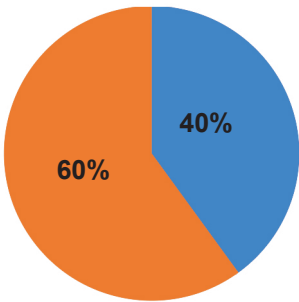
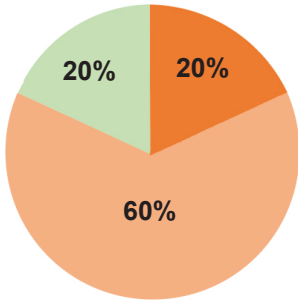
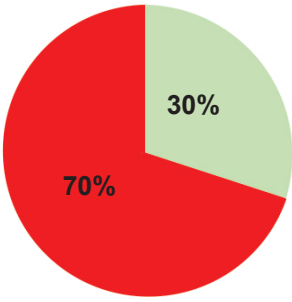
[1]

[Turn over



(c) Study **Table 2** which shows how load changes downstream. Answer the question which follows.

Table 2

Site	Average Load size (cm)	Distance downstream (km)	Load shape
1	13.6	1.6	 - Very Angular - Angular
2	8.1	6.2	 - Angular - Sub-Rounded - Rounded
3	3.6	14.1	 - Rounded - Very Rounded



(d) 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]

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Theme B: Coastal Environments

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

- (i)** State the height of the land shown by the triangulation pillar at the top of Warth Hill, GR 3769.

_____ m [1]

- (ii)** State the straight line distance from the viewpoint at Duncansby Head GR 405734 to Black Loch GR 373704.

_____ km [2]

- (iii)** State the direction of Ness Head GR 3866 from St. John's Point GR 3175.

_____ [1]

- (iv)** Estimate the area of the mixed wood at GR 3370. Underline your answer in the list below.

0.2 km²

1.0 km²

5.0 km²

[1]



- (b) There is a wave cut platform along the coastline from St. John's Point to Duncansby Head. Complete **Table 3** below by placing the statements in numerical order to show how a wave cut platform is formed. One has been completed for you.

Table 3

Statement	Order
The notch is widened by erosion	
Waves attack the base of a cliff	
Eventually the cliff collapses and retreats leaving a wave cut platform	
Over time the cliff begins to be undercut	
A wave cut notch is formed	2

[4]

[Turn over



(c) Study **Photograph 1**, which shows the Stacks of Duncansby, located south of Duncansby Head.

Explain how stacks such as these are formed.



© http://www.photographers-resource.co.uk/locations/Nature/Bays/LG/duncansby_stacks.htm.
Some rights reserved www.photographers-resource.co.uk/symbols/cc

Photograph 1

[5]



(d) Many experts believe that some coastal areas are under threat and need to be protected. Explain **one** possible impact of climate change on a coast.

[3]

[Turn over

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(e) Evaluate the sustainability of the coastal management strategy used to protect a named coastline in the British Isles.

[illegible]

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Theme C: Our Changing Weather and Climate

- 3 (a) Study **Table 4** below which shows three weather recording instruments. Answer the question that follows.

Complete **Table 4** by writing the correct answers in the blank boxes.

Table 4

Weather instrument	Name of instrument	Weather element recorded
 © Examiner		Wind speed
 © Examiner	Digital Thermometer	
 © Examiner		Precipitation

[3]



- (b) Study **Fig. 2** which gives information about some factors that can affect the climate of a place.

Complete **Fig. 2** by drawing a line to join each factor with its correct description. One has been completed for you. [3]

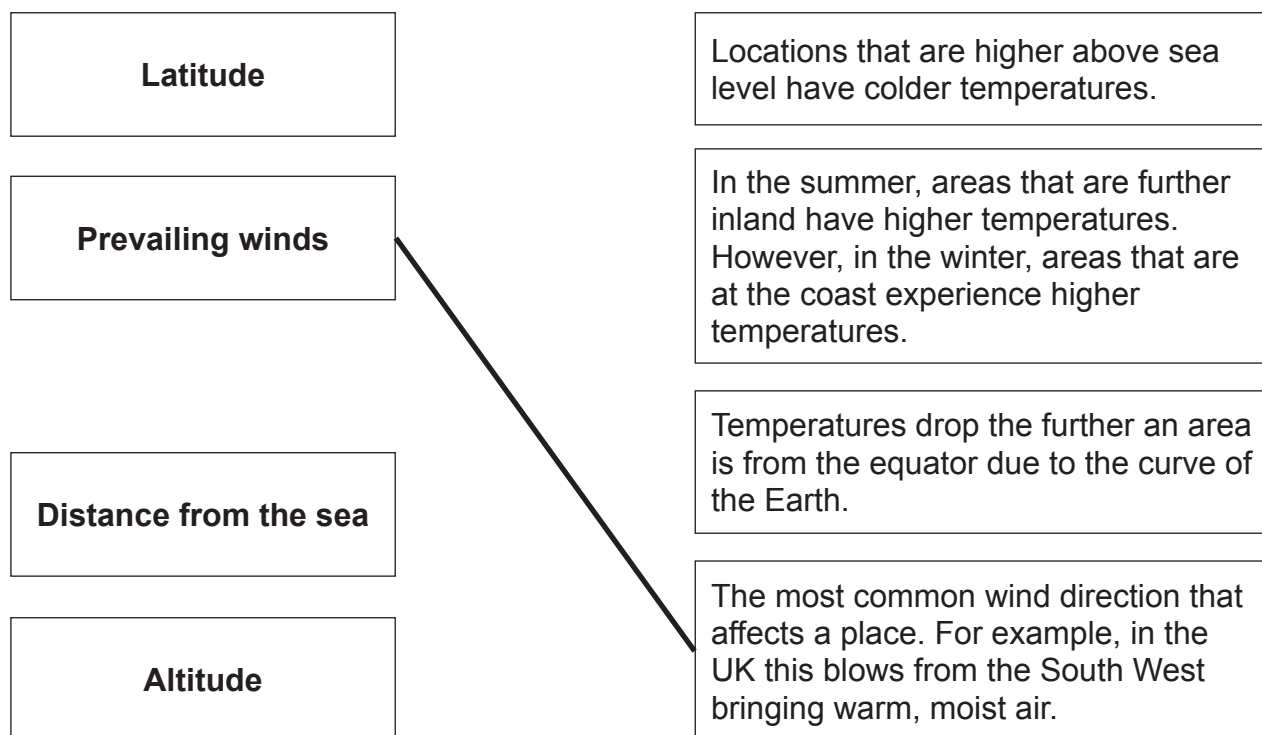


Fig. 2

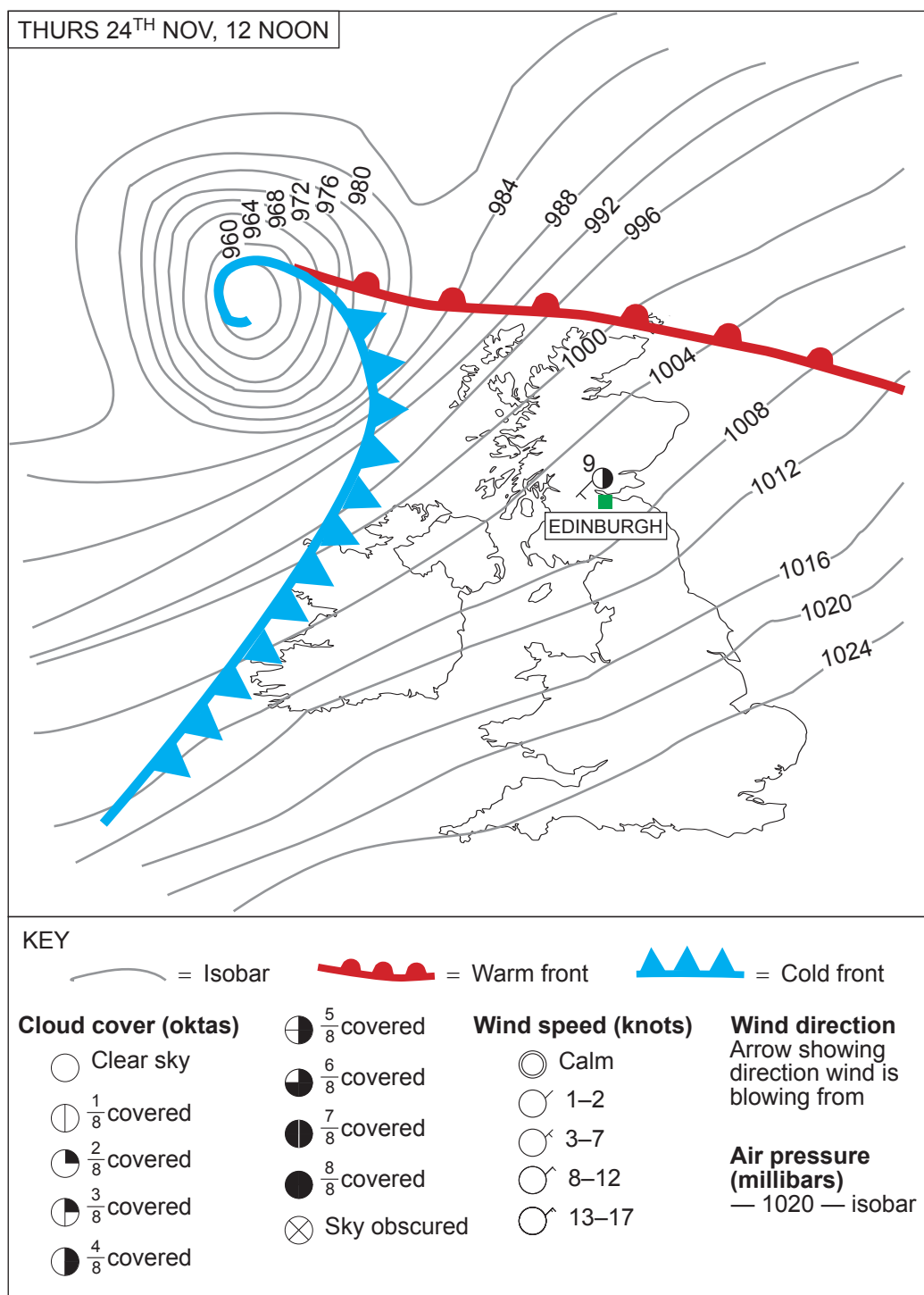
- (c) Name **two** types of cloud and describe one way they are different from each other.

[3]

[Turn over]



- (d) Study **Fig. 3** below which shows a synoptic chart for a day in November. Answer the questions that follow.



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Fig. 3





(e) With reference to your case study of an extreme weather event outside the British Isles, describe the impacts this had on people.

Extreme weather event _____

[6]

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Theme D: The Restless Earth

- 4 (a) Study **Fig. 4** which shows the location of fold mountains in the world. Answer the questions which follow.

Location of fold mountains

Image of map removed due to copyright issues

Fig. 4



- (i) Describe the world distribution of fold mountains shown on **Fig. 4**, referring to named places in your answer.

[4]

- (ii) Fold mountains are often made of sedimentary rocks. Explain how sedimentary rocks were formed.

[3]

[Turn over



(b) What is the difference between the focus and the epicentre of an earthquake?

[3]

(c) One consequence of an earthquake is a tsunami. State the meaning of the term **tsunami**.

[2]

(d) Explain why volcanoes are often located along constructive plate boundaries.

[4]



- (e) Complete **Table 6** below by using a tick (✓) to show the **three** characteristics which are true of supervolcanoes.

Table 6

Characteristic of supervolcanoes	Tick (✓) only three correct statements
It erupts violently from a large magma chamber	
It has a wide cone with gentle slopes	
It forms from a collapsed caldera	
It is caused by pressure building up over a long time	
It has a high cone made of layers of ash and lava	

[3]

[Turn over



- (f) Study **Fig. 5** a satellite image and photograph of the supervolcano Campi Flegrei area in Italy. Answer the questions which follow.



Magma is building up under the sea near Pozzuoli and moving closer towards the city of Naples

Key:

 Towns and Cities

 Supervolcano

The view across the Gulf of Pozzuoli where much of the Campi Flegrei supervolcano lies beneath the sea



© Mapsism (<https://www.mapsism.com/vulcani/Campi-Flegrei>)

©4Corners Images

Fig. 5



(i) Name the town which is in the supervolcano area.

_____ [1]

(ii) The city of Naples is under threat from the supervolcano. Outline **one** potential impact on the people of Naples if this supervolcano were to erupt.

_____ [2]

(iii) Discuss **one** potential global impact on the environment of a named supervolcano eruption which you have studied.

Name of supervolcano eruption _____

_____ [3]

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For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	

Total Marks	
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Examiner Number

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ROADS AND PATHS

Not necessarily rights of way

Junction number Elevated

Service area

Unfenced

A 470 Dual carriageway

A 493 Footbridge

B 4518 Secondary road

A 855 Bridge

B 885 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

Weir

Normal tidal limit

Footbridge

Bridge

Beacon

Sand

Dunes

Flat rock

Lighthouse (disused)

Lighthouse (in use)

Low water mark

Mud

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.

OTHER PUBLIC ACCESS

Other route with public access (not normally shown in urban areas). Alignments are based on the best information available. These routes are not shown on maps of Scotland.

On-road cycle route

Traffic-free cycle route

National Cycle Network number

Regional Cycle Network number

National Trail, Scotland's Great Trails, European Long Distance Path and selected Recreational Routes

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 (with tower with spire, minaret or dome)

Place of worship

Glass structure

Helipoint

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

Forestry Commission land

National Trust (always open / limited access, observe local signs)

Natural Resources Wales

National Trust for Scotland (always open / limited access, observe local signs)

ABBREVIATIONS

Br Bridge

Cem Cemetery

CG Cattle grid

CH Clubhouse

Fm Farm

Hospl Hospital

Ho House

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

