AQA

Please write clearly in block capitals.

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Surname _____

Forename(s) _____

Candidate signature _____

GCSE
GEOGRAPHY

Paper 1 Living with the Physical Environment

Tuesday 21 May 2019 Afternoon Time allowed: 1 hour 30 minutes

Materials
For this paper you must have:
- a pencil
- a rubber
- a ruler.

You may use a calculator.

Instructions
- Use black ink or black ball-point pen.
- Fill in the boxes at the top of this page.

Answer all questions in Section A and Section B.

Answer two questions in Section C.

For Examiner's Use	
Question	Mark
1	
2	
3	
4	
5	
TOTAL	

- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information
- The marks for questions are shown in brackets.
- The total number of marks available for this paper is 88.
- Spelling, punctuation, grammar and specialist terminology will be assessed in Question **01.10**.

Do not write outside the box

For the multiple-choice questions, shade the circle next to the correct answer.

CORRECT METHOD ⬬ WRONG METHODS ⊗ ⦿ ≋ ✓

If you want to change your answer you must cross out your original answer as shown. ⬬

If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown. ⬬

Section A The challenge of natural hazards

Answer **all** questions in this section.

Question 1 **The challenge of natural hazards**

0 1 . 1 State what is meant by extreme weather.

[1 mark]

_____

_____

0 1 . 2 Which **one** of the following statements does **not** describe an extreme weather event in the UK?

Shade **one** circle only.

[1 mark]

A A snow blizzard in the Midlands. ⬭

B A heatwave in the Lake District. ⬭

C A tornado in the Isle of Wight. ⬭

D A wet winter in western Scotland. ⬭

Do not write outside the box

Study **Figure 1**, a map showing a weather forecast for the UK on 1 March 2018.

Figure 1

Map showing snow forecast warning cannot be reproduced here due to third-party copyright restrictions.

0 1 . 3 Using **Figure 1**, which **one** of the following statements is true?

Shade **one** circle only.

[1 mark]

A The London area has an amber snow warning. ⬭

B The whole of the UK has a snow warning. ⬭

C Cardiff has a red snow warning. ⬭

D Edinburgh is not forecast to have snow. ⬭

Question 1 continues on the next page

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Study **Figure 2**, information about extreme weather in the UK in March 2018.

Figure 2

Snow warnings

Yellow:
- Some impacts
- Disrupted travel

Amber:
- Severe impacts
- Road and rail closures
- Potential risk to life and buildings

Red:
- Dangerous weather
- Risk to life
- Major disruption to travel and power supplies

'Beast from the East' causes chaos across Britain. The killer freeze costs the UK £1 billion per day as transport routes are disrupted by snow and ice. Businesses and schools are forced to close.

0 1 . 4 Suggest how extreme weather in the UK can have economic and social impacts.

Use **Figure 2** and your own understanding.

[6 marks]

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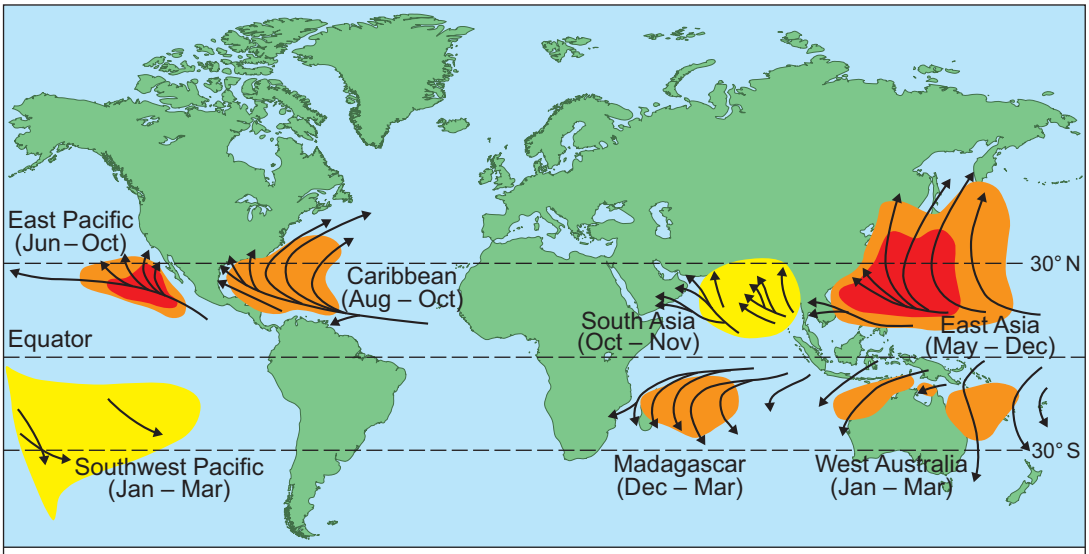
Question 1 continues on the next page

Do not write outside the box

Study **Figure 3**, a map showing the distribution and frequency of tropical storms.

Figure 3



Key

Average number of tropical storms per year

Less than 1.0 | 1.0 – 2.9 | 3.0 or more | → Tropical storm tracks

(Jun – Oct) Months when tropical storms are most frequent

0 1 . 5 Using **Figure 3**, complete the following paragraph.

[3 marks]

Most tropical storms happen between latitudes 5 degrees and 30 degrees north and south of the _____ .

On average, three or more tropical storms per year take place in the East Pacific and _____ . In the Caribbean the main months for tropical storms are between _____ .

Do not write outside the box

0 1 . 6 Give **two** reasons why tropical storms form in the areas shown in **Figure 3**.

[2 marks]

1 _____

_____

2 _____

_____

Question 1 continues on the next page

Do not write outside the box

Study **Figure 4**, a table listing some of the most severe tropical storms over the past 50 years.

Figure 4

Tropical storm	Number of deaths	Max wind speed (km per hour)
1970 Bhola cyclone, Bangladesh	350 000	205
1975 Typhoon Nina, China	230 000	250
2008 Cyclone Nargis, Myanmar	138 000	215
1998 Hurricane Mitch, Caribbean	19 300	295
2013 Typhoon Haiyan, Philippines	7 300	310
1980 Hurricane Allen, Caribbean, Mexico and USA	260	305
2017 Hurricane Irma, Caribbean and USA	134	298

0 1 . 7 ‘As maximum wind speeds increase, so does the number of deaths linked to tropical storms.’

Do you agree?

Use evidence from **Figure 4** to support your answer.

[2 marks]

_____

_____

_____

_____

0 1 . 8 Suggest **one** way the distribution of tropical storms could change if global ocean temperatures continue to rise.

[1 mark]

_____

_____

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0 1 . 9 Explain how alternative energy production **and** planting trees may help to reduce the rate of climate change.

[4 marks]

Extra space

Question 1 continues on the next page

Do not write outside the box

Study **Figure 5**, photographs showing different types of response to a tectonic hazard.

Figure 5

Immediate response to a tectonic hazard in Haiti

Long-term response to a tectonic hazard in Haiti

0 1 . 1 0 ‘Long-term responses to a tectonic hazard are more important than immediate responses.’

Do you agree?

Using **Figure 5** and **one or more** examples, explain your answer.

[9 marks]
[+3 SPaG marks]

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33

End of Section A

Turn over for Section B

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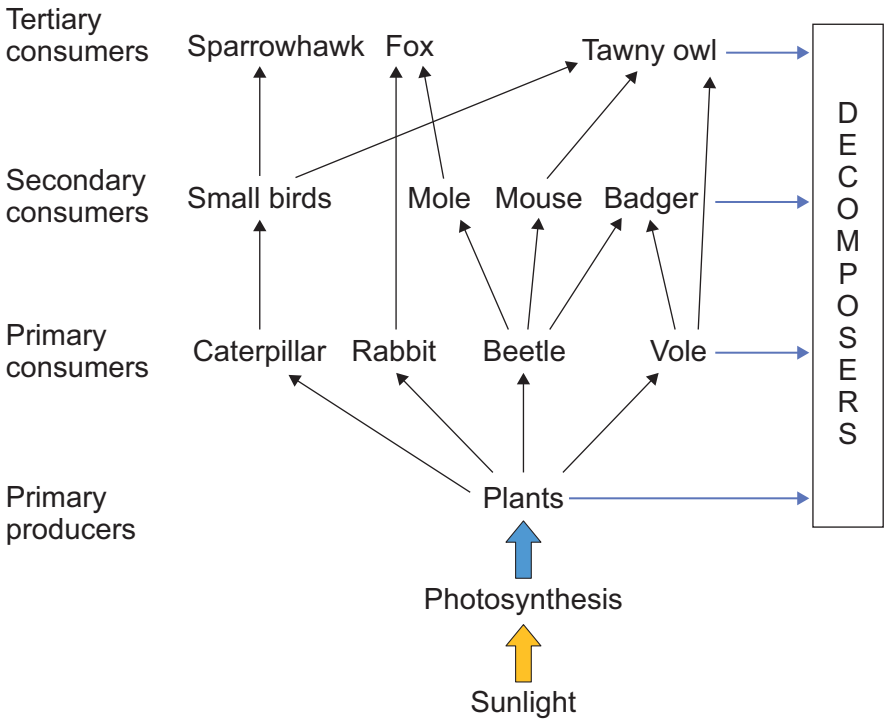
Section B The living world

Answer **all** questions in this section.

Question 2 **The living world**

Study **Figure 6**, which shows a food web for a small scale ecosystem in the UK.

Figure 6



0 2 . 1 Using **Figure 6**, which **one** of the following statements is true?

Shade **one** circle only.

[1 mark]

A Sparrowhawks eat plants. ⬭

B Voles eat moles. ⬭

C Moles eat beetles. ⬭

D Badgers eat small birds. ⬭

Do not write outside the box

0 2 . 2 Suggest what would happen in the food web shown in **Figure 6** if foxes became extinct.

[2 marks]

_____

_____

_____

_____

0 2 . 3 State **one** role of decomposers in an ecosystem.

[1 mark]

_____

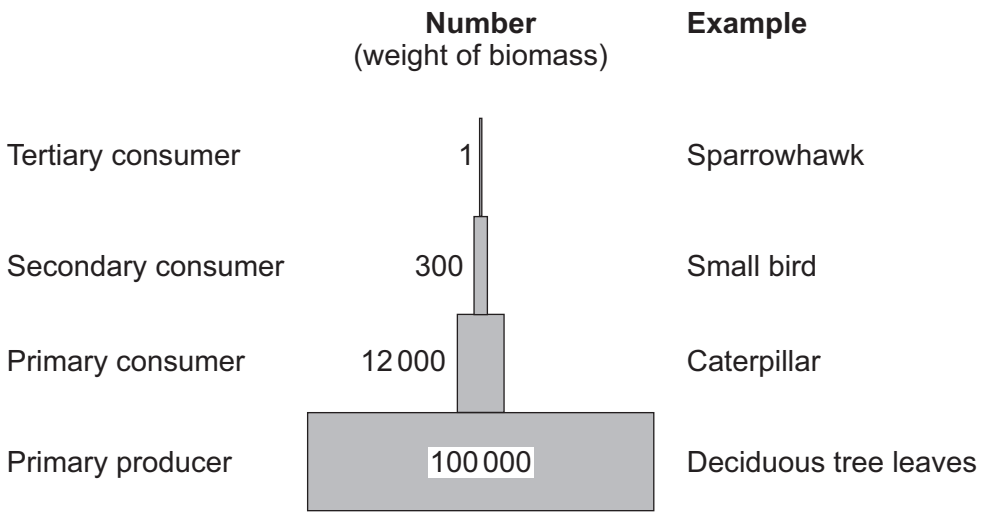
_____

Question 2 continues on the next page

Do not write outside the box

Study **Figure 7**, a graph showing the biomass at different levels of a food chain.

Figure 7



Biomass is the total quantity or weight of organisms in a given area.

0 2 . 4 Calculate the percentage loss in biomass between the primary consumer and secondary consumer levels.

Shade **one** circle only.

[1 mark]

A 2.5% ⬭

B 97.5% ⬭

C 25.2% ⬭

D 95.5% ⬭

0 2 . 5 Give **two** reasons why the biomass changes between each level in the food chain.

[2 marks]

1 _____

_____

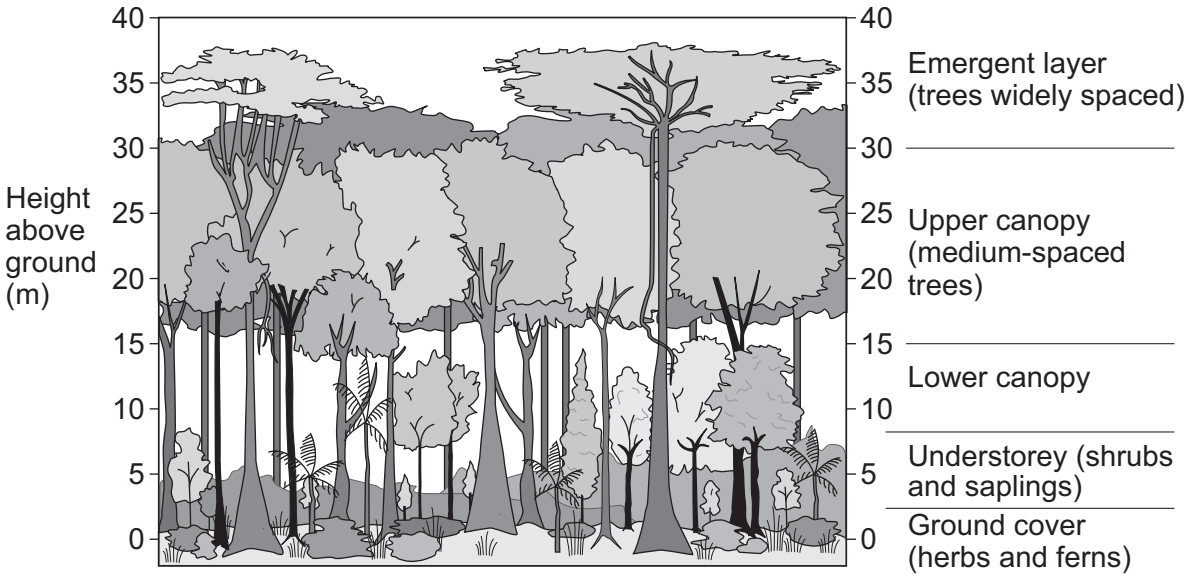
2 _____

_____

Do not write outside the box

Study **Figure 8**, a diagram showing the structure of the tropical rainforest.

Figure 8



0 2 . 6 Using **Figure 8**, which part of the rainforest matches the following description?

'An almost continuous layer of branches and leaves between 15 and 30 metres high.'

Shade **one** circle only.

[1 mark]

A Emergent layer ⬭

B Upper canopy ⬭

C Lower canopy ⬭

D Understorey ⬭

0 2 . 7 Using **Figure 8**, describe **one** characteristic of the base of the taller trees.

[1 mark]

_____

_____

0 2 . 8 Give **one** effect of deforestation on the soils of the rainforest.

[1 mark]

_____

_____

Do not write outside the box

Study **either Figure 9 or Figure 10**.

Figure 9 (plants and animals in a hot desert)

Figure 10 (plants and animals in a cold environment)

Do not write outside the box

0 2 . 9 ‘Plants and animals adapt in order to survive in a hostile environment.’

Explain this statement.

Use **either Figure 9 or Figure 10** and your own understanding.

Tick (✓) the box to show which environment you have chosen.

Hot desert environment (**Figure 9**) ☐

Cold environment (**Figure 10**) ☐

[6 marks]

Extra space

Question 2 continues on the next page

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0 2 . 1 0 **Either**

To what extent is human activity the cause of desertification in areas on the fringes of hot deserts?

or

To what extent are cold environments at risk from economic development, and therefore in need of protection?

Tick (✓) the box to show which environment you have chosen.

Hot desert environment (**Figure 9**) ☐

Cold environment (**Figure 10**) ☐

[9 marks]

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25

End of Section B

Turn over for Section C

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Section C Physical landscapes in the UK

Answer **two** questions from the following:

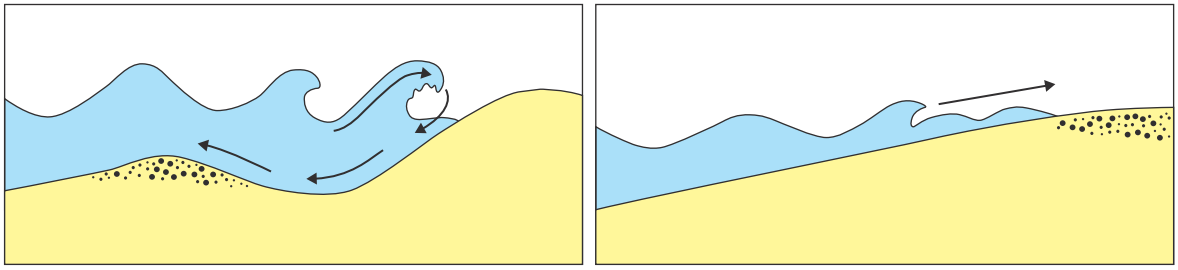
Question 3 (Coasts), Question 4 (Rivers), Question 5 (Glacial).

Question 3 **Coastal landscapes in the UK**

Study **Figure 11**, diagrams of destructive and constructive waves.

Figure 11

Destructive wave **Constructive wave**



0 3 . 1 Using **Figure 11**, compare **two** features of destructive and constructive waves.

[2 marks]

1 _____

_____

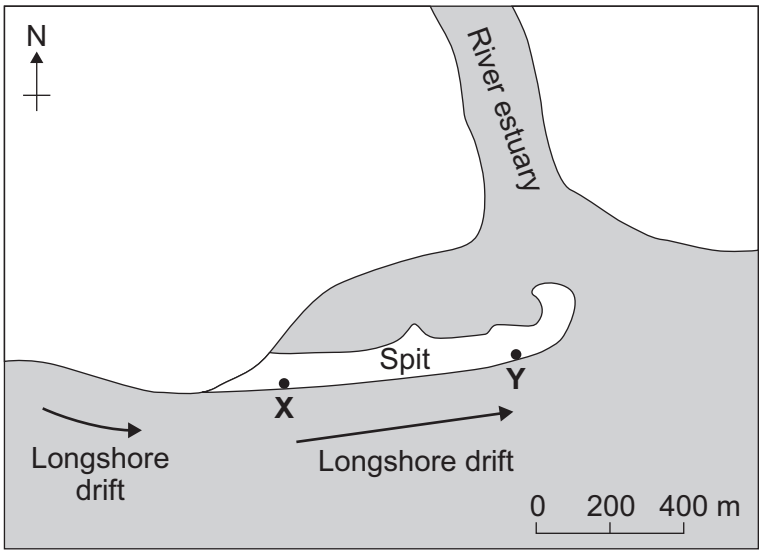
2 _____

_____

Do not write outside the box

Study **Figure 12**, showing sediment size at two locations along a coastal spit.

Figure 12



Location X Sediment size (cm)	Location Y Sediment size (cm)
12	9
10	4
9	2
15	3
8	2
13	6
Mean: 11.2	Mean:

0 3 . 2 Complete the table in **Figure 12** by calculating the mean sediment size, in cm, for location **Y**.

[1 mark]

0 3 . 3 Suggest **one** reason for the difference in sediment size between location **X** and location **Y**.

[1 mark]

_____

_____

Question 3 continues on the next page

Do not write outside the box

0 3 . 4 Which of these is a process of mass movement in coastal environments?

Shade **one** circle only.

[1 mark]

A Frost shattering

B Slumping

C Attrition

D Longshore drift

Do not write outside the box

Study **Figure 13**, a photograph showing sea defences in Hornsea, Yorkshire.

Figure 13

0 3 . 5 Explain how the sea defences shown in **Figure 13** help to protect the coastline from erosion.

[4 marks]

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Question 3 continues on the next page

Do not write outside the box

Study **Figure 14**, a photograph showing a coastal landscape in Pembrokeshire, South Wales.

Figure 14

0 3 . 6 Explain how different coastal landforms are created by erosion.

Use **Figure 14** and your own understanding.

[6 marks]

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15

End of Question 3

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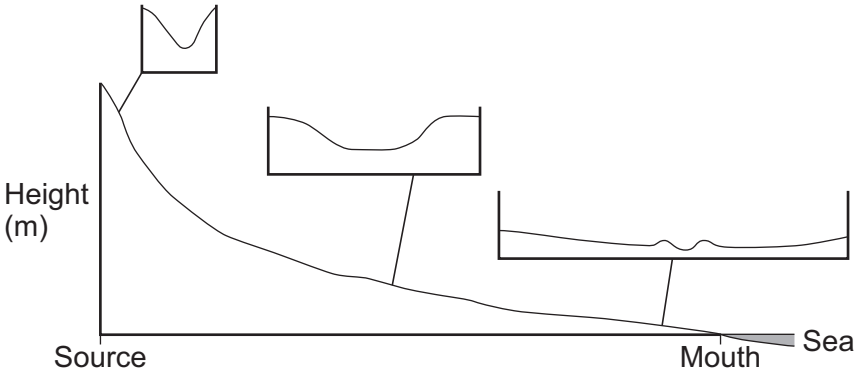
Question 4 **River landscapes in the UK**

Study **Figure 15**, a diagram showing the long and cross profiles of a typical river and its valley.

Figure 15



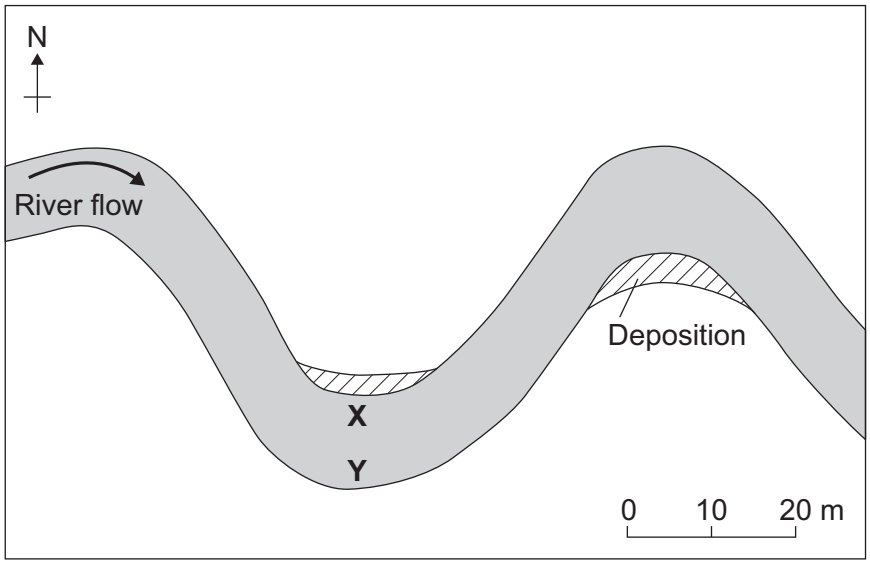
0 4 . 1 Describe how the cross profile of the river valley changes downstream.

[2 marks]

Do not write outside the box

Study **Figure 16**, showing velocity data for a meandering river.

Figure 16



Velocity of river at X (in metres per second)	Velocity of river at Y (in metres per second)
0.4	1.2
0.7	1.4
0.3	1.1
0.4	1.7
0.9	0.9
0.6	1.5
Median: 0.5	Median:

0 4 . 2 Complete the table in **Figure 16** by calculating the median velocity, in metres per second, at point **Y**.

[1 mark]

0 4 . 3 Suggest **one** reason for the difference in river velocity between point **X** and point **Y**.

[1 mark]

_____

_____

Question 4 continues on the next page

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0 4 . 4 Which of these is a process by which a river transports sediment?

Shade **one** circle only.

[1 mark]

A Abrasion ⬭

B Traction ⬭

C Deposition ⬭

D Hydraulic power ⬭

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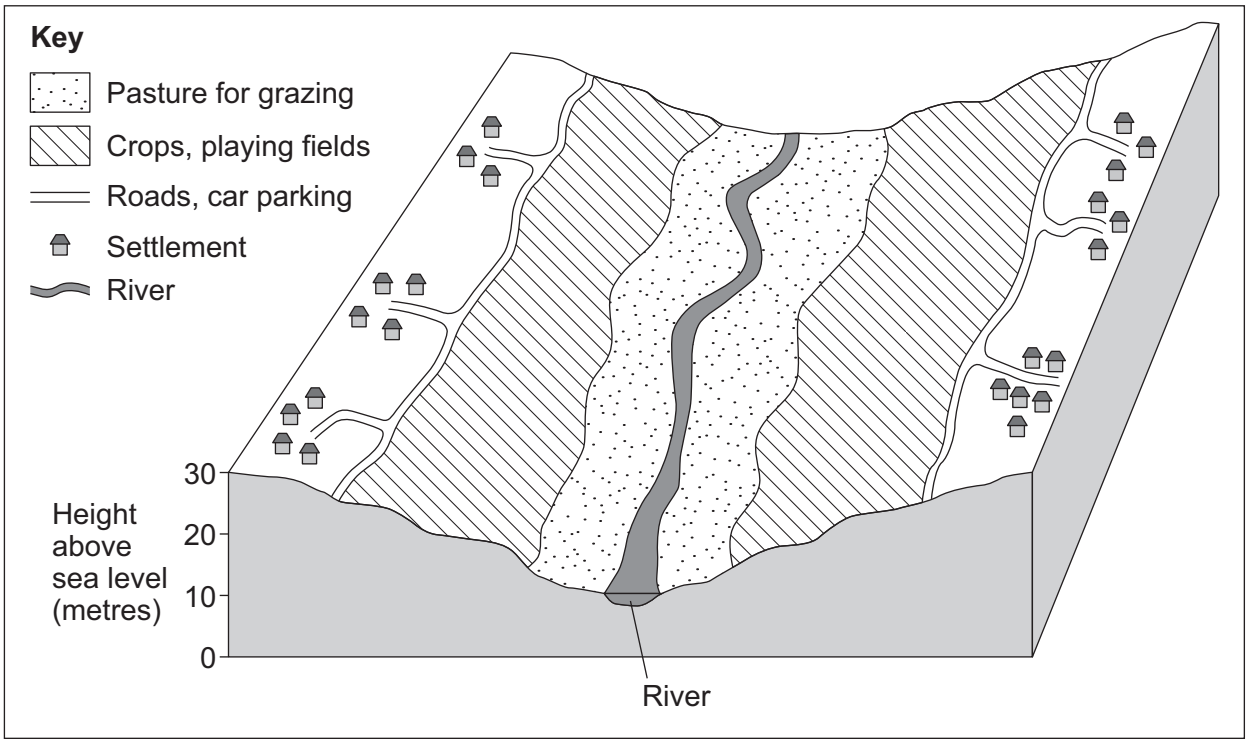
Study **Figure 17**, a diagram showing floodplain zoning.

Figure 17



0 4 . 5 Explain how soft engineering strategies can help to reduce the impact of river flooding.

Use **Figure 17** and your own understanding.

[4 marks]

Extra space

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Study **Figure 18**, a photograph showing some features of a river in the Lake District.

Figure 18

0 4 . 6 Explain how the landforms shown in **Figure 18** are created by physical processes.

[6 marks]

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End of Question 4

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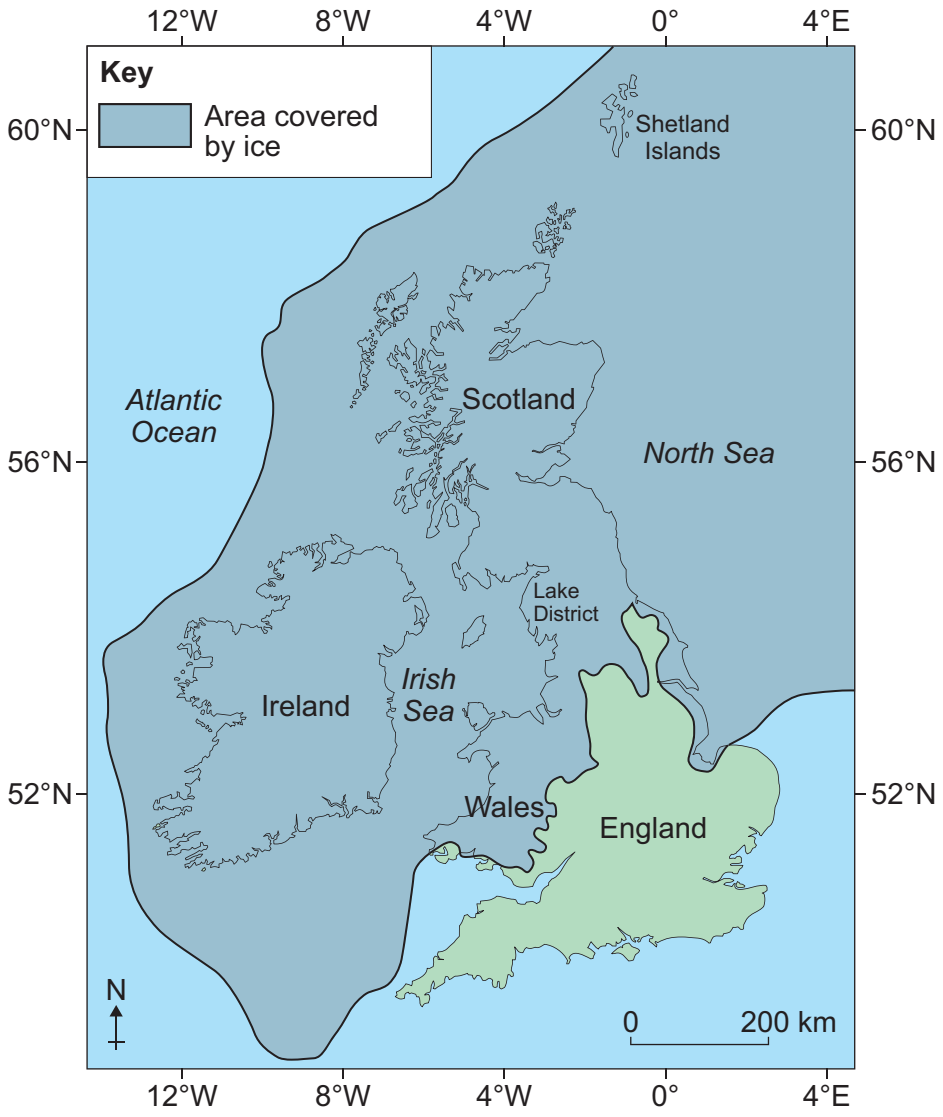
Question 5 **Glacial landscapes in the UK**

Study **Figure 19**, a map showing the extent of ice cover across the British Isles during the last ice age.

Figure 19



0 5 . 1 Using **Figure 19**, describe the extent of ice cover across the British Isles during the last ice age.

[2 marks]

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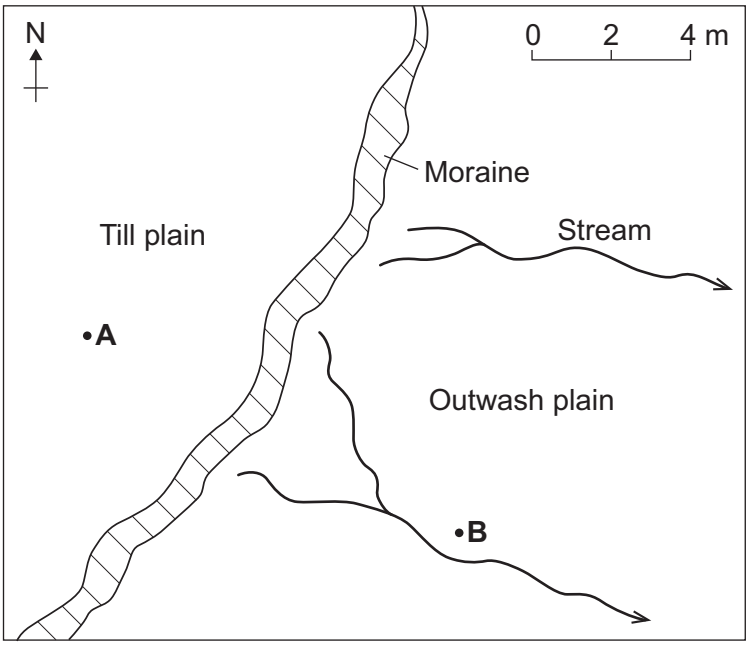
Study **Figure 20**, showing the size of glacial sediment at two locations.

Figure 20



Location A Size of sediment (cm)	Location B Size of sediment (cm)
2.3	5.9
18.6	6.9
26.7	3.8
4.1	9.1
14.0	10.4
1.4	7.2
Range: 25.3	Range:

0 5 . 2 Complete the table in **Figure 20** by calculating the range of sediment size, in cm, at location **B**.

[1 mark]

0 5 . 3 Suggest **one** reason for the difference in the range of sediment size between location **A** and location **B**.

[1 mark]

_____

_____

Question 5 continues on the next page

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0 5 . 4 Which of these is a process of glacial erosion?

Shade **one** circle only.

[1 mark]

A Freeze-thaw

B Plucking

C Rotational slip

D Transportation

Do not write outside the box

Study **Figure 21**, showing some land uses in a glaciated area.

Figure 21

Tourism

Quarrying

Farming

Forestry

0 5 . 5 Explain why there may be land use conflicts in glaciated upland areas.

Use **Figure 21** and your own understanding.

[4 marks]

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Question 5 continues on the next page

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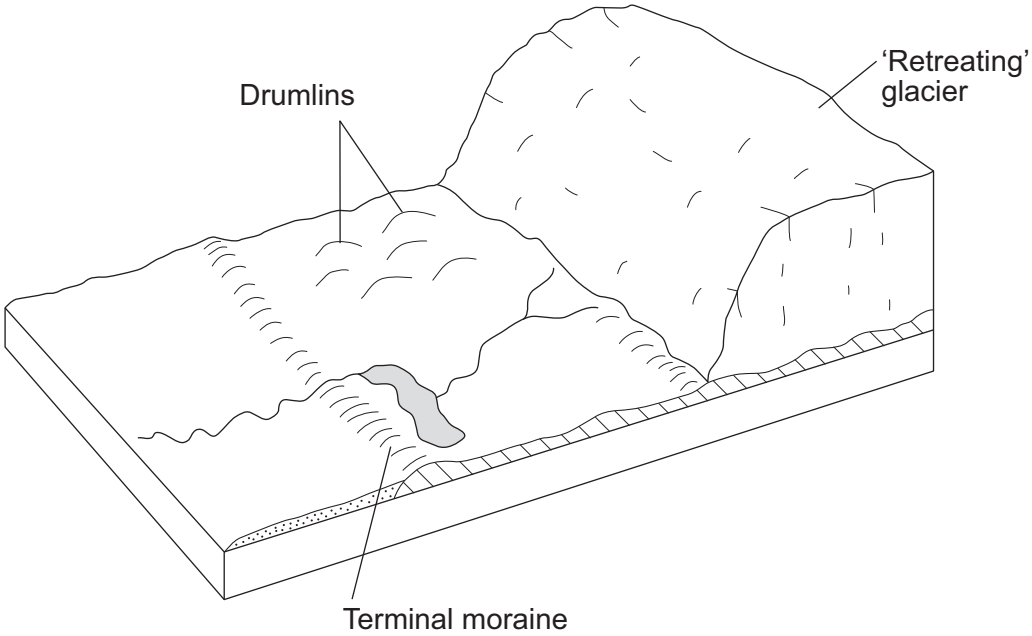
Study **Figure 22**, a diagram showing landforms of glacial deposition.

Figure 22



0 5 . 6 Explain the formation of different landforms of glacial deposition.

Use **Figure 22** and your own understanding.

[6 marks]

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15

END OF QUESTIONS

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