

Paper Reference 4GE1/01  
Pearson Edexcel  
International GCSE (9–1)

Total Marks
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Geography  
PAPER 1: Physical geography

Friday 17 May 2024 – Afternoon

Time: 1 hour 10 minutes

In the boxes below, write your name, centre number and candidate number.

Surname					
Other names					
Centre Number					
Candidate Number					

**YOU MUST HAVE**

**Calculator**

**YOU WILL BE GIVEN**

**Resource Booklet**

**Diagram Booklet**

**INSTRUCTIONS**

**In Section A, answer TWO questions from Questions 1, 2 and 3.**

**In Section B, answer ONE question from Questions 4, 5 and 6.**

**Answer the questions in the spaces provided in this Question Paper or on the separate diagrams – there may be more space than you need.**

**Calculators may be used.**

**Where asked you must show all your working out with your answer clearly identified at the end of your solution.**

## **INFORMATION**

**The total mark for this paper is 70.**

**The marks for EACH question are shown in brackets – use this as a guide as to how much time to spend on each question.**

**There may be spare copies of some diagrams in case you need them.**

## **ADVICE**

**Read each question carefully before you start to answer it.**

**Check your answers if you have time at the end.**

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**SECTION A**

**Answer TWO questions from this section.**

**Some questions are multiple choice. Write the letter(s) of your chosen answer(s) in the boxes provided.**

**If you answer Question 1, put a cross in this box**

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## 1. River environments

(a) Identify the best definition of the term evaporation.

- A** any form of water that falls from the sky
- B** the emission of water vapour from leaves
- C** water changing from a gas to a liquid
- D** water changing from a liquid to a gas

Answer

(1 mark)

(continued on the next page)

Turn over

**1. continued.**

**(b) (i) Identify the best definition of a river source.**

**A a smaller river that joins a larger river**

**B where the river meets the sea**

**C where the river starts**

**D where two rivers meet**

**Answer**

**(1 mark)**

**(continued on the next page)**

**Turn over**

1. (b) continued.

(ii) State ONE human cause of river flooding.

(1 mark)

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(iii) Explain the process of saltation.

(2 marks)

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(continued on the next page)

1. continued.

(c) Study Figure 1a in the Resource Booklet.

**Suggest TWO pieces of evidence from the map  
that this is an upland area.**

**(4 marks)**

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**Turn over**



1. continued.

(d) Study Figure 1b in the Resource Booklet.

Identify the feature of the storm hydrograph  
labelled **X**.

(1 mark)

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(continued on the next page)

1. continued.

(e) Explain TWO different causes of river water pollution.

(4 marks)

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Turn over

1. continued.

(f) Explain ONE way dams can affect river regimes.

(3 marks)

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(continued on the next page)

1. continued.

(g) Study Figure 1c in the Resource Booklet.

Analyse the possible reasons for water shortages.

You **MUST** refer to the resource in your answer.  
(8 marks)

Answer lines continue on the next two pages.

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**1. (g) continued.**

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**Turn over**

**1. (g) continued.**

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**(Total for Question 1 = 25 marks)**

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**Turn over**

15

**If you answer Question 2, put a cross in this box**

☐

**Turn over**

## 2. Coastal environments

(a) Identify ONE abiotic characteristic of a coastal ecosystem.

**A** coral

**B** fungi

**C** phytoplankton

**D** temperature

Answer

(1 mark)

(continued on the next page)



**2. continued.**

**(b) (i) Identify the best definition of backwash.**

- A distance between two wave crests**
- B friction between wind and water surface**
- C movement of water down the beach**
- D movement of water up the beach**

**Answer**

**(1 mark)**

**(continued on the next page)**

**Turn over**

**2. (b) continued.**

**(ii) State ONE characteristic of a constructive wave.**

**(1 mark)**

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**(iii) Explain ONE type of coastal mass movement.**

**(2 marks)**

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**(continued on the next page)**

**Turn over**

2. continued.

(c) Study Figure 2a in the Resource Booklet.

**Suggest TWO reasons hard engineering is suitable for this stretch of coastline.**

**(4 marks)**

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**Turn over**

**2. continued.**

**(d) Explain why ONE conflict might occur between different users of coastlines.**

**(3 marks)**

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**(continued on the next page)**

**2. continued.**

**(e) Study Figure 2b in the Resource Booklet.**

**Identify the landform labelled X.**

**(1 mark)**

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**(continued on the next page)**

2. continued.

(f) Explain TWO physical factors that affect coastal deposition.

(4 marks)

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2. continued.

(g) Study Figure 2c in the Resource Booklet.

Analyse the possible reasons why the populations of some countries are more at risk from coastal flooding than others.

You **MUST** refer to the resource in your answer.

(8 marks)

Answer lines continue on the next two pages.

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**2. (g) continued.**

[illegible]

**Turn over**



**2. (g) continued.**

[illegible]

**(Total for Question 2 = 25 marks)**

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**If you answer Question 3, put a cross in this box**

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### 3. Hazardous environments

(a) Identify the plate boundary where volcanoes  
DO NOT form.

**A** conservative (transform)

**B** constructive (divergent)

**C** destructive (convergent)

**D** hotspot

Answer

(1 mark)

(continued on the next page)

3. continued.

(b) (i) Identify the correct way to measure tropical cyclone intensity.

**A** Mercalli scale

**B** Moment magnitude scale

**C** Richter scale

**D** Saffir–Simpson scale

Answer

(1 mark)

(continued on the next page)

Turn over

3. (b) continued.

(ii) State ONE characteristic of a tropical cyclone.

(1 mark)

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(iii) Explain ONE reason tropical cyclones lose their energy when they reach land.

(2 marks)

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3. continued.

(c) Explain TWO reasons preparation for earthquakes may be more effective in some countries than others.

(4 marks)

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**3. continued.**

**(d) Explain ONE physical factor that can make people more vulnerable to natural hazards.**

**(3 marks)**

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3. continued.

(e) Study Figure 3a in the Resource Booklet.

Identify the volcanic hazard labelled **X**.

(1 mark)

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3. continued.

(f) Study Figure 3b in the Resource Booklet.

**Suggest TWO reasons for the distribution of volcanoes.**

**(4 marks)**

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**Turn over**

3. continued.

(g) Study Figure 3c in the Resource Booklet.

Analyse the impacts of the volcanic eruption on the environment.

You **MUST** refer to the resource in your answer.  
(8 marks)

Answer lines continue on the next two pages.

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**3. (g) continued.**

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**3. (g) continued.**

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**(Total for Question 3 = 25 marks)**

**TOTAL FOR SECTION A = 50 MARKS**

**Turn over**

**SECTION B****Geographical enquiry**

**Answer ONE question from this section.**

**Some questions are multiple choice. Write the letter(s) of your chosen answer(s) in the boxes provided.**

**If you answer Question 4, put a cross in this box**

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#### 4. Investigating river environments

A group of students has undertaken an enquiry that investigated changes within a river channel along its course.

(a) (i) Identify ONE piece of equipment used to measure gradient.

**A** calliper

**B** clinometer

**C** compass

**D** quadrat

Answer

(1 mark)

(continued on the next page)

Turn over

4. (a) continued.

(ii) State ONE risk the students should have prepared for when carrying out their river fieldwork.

(1 mark)

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(continued on the next page)

**4. continued.**

**(b) Study Figure 4a in the Resource Booklet. It shows some data about the average channel depth at the 10 sites where data was collected.**

**Calculate the range in river depth.**

**You MUST show all your working in the space below.**

**(2 marks)**

\_\_\_\_\_ **cm**

**(continued on the next page)**

**Turn over**



**4. continued.**

- (c) (i) Study Figure 4b in the Resource Booklet and Figure 4c in the Diagram Booklet. Figure 4c shows a graph.**

**Plot the data for sites 1 and 3, from Figure 4b (shown in the Resource Booklet), on Figure 4c in the Diagram Booklet.**

**(2 marks)**

- (ii) Draw a line of best fit on Figure 4c in the Diagram Booklet.**

**(1 mark)**

**(continued on the next page)**

4. (c) continued.

(iii) Suggest ONE reason for the relationship shown on Figure 4c.

(2 marks)

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4. continued.

(d) Explain ONE OTHER primary data collection method students might have found useful in their river enquiry.

(3 marks)

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4. continued.

(e) You have studied river processes as part of your own geographical enquiry.

Evaluate the accuracy and reliability of your data collection techniques.

(8 marks)

Answer lines continue on the next three pages.

Geographical enquiry title

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**4. (e) continued.**

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**4. (e) continued.**

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**Turn over**

4. (e) continued.

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(Total for Question 4 = 20 marks)

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**If you answer Question 5, put a cross in this box**

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## 5. Investigating coastal environments

A group of students has undertaken an enquiry that investigated beach characteristics along a stretch of coastline.

(a) (i) Identify ONE piece of equipment used to measure gradient.

**A** calliper

**B** clinometer

**C** compass

**D** quadrat

Answer

(1 mark)

(continued on the next page)

Turn over

5. (a) continued.

(ii) State ONE risk the students should have prepared for when carrying out their coastal fieldwork.

(1 mark)

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(continued on the next page)

**5. continued.**

**(b) Study Figure 5a in the Resource Booklet. It shows some data about the pebble length for 10 pebbles measured at site 2.**

**Calculate the range in sediment size at site 2.**

**You MUST show all your working in the space below.**

**(2 marks)**

\_\_\_\_\_ **cm**

**(continued on the next page)**

**Turn over**

**5. continued.**

- (c) (i) Study Figure 5b in the Resource Booklet and Figure 5c in the Diagram Booklet. Figure 5c shows a graph.**

**Plot the data for sites 1 and 3, from Figure 5b (shown in the Resource Booklet), on Figure 5c in the Diagram Booklet.**

**(2 marks)**

- (ii) Draw a line of best fit on Figure 5c in the Diagram Booklet.**

**(1 mark)**

**(continued on the next page)**

5. (c) continued.

(iii) Suggest ONE reason for the relationship shown on Figure 5c.

(2 marks)

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5. continued.

(d) Explain ONE OTHER primary data collection method students might have found useful in their coastal enquiry.

(3 marks)

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5. continued.

(e) You have studied a coastal environment as part of your own geographical enquiry.

Evaluate the accuracy and reliability of your data collection methods.

(8 marks)

Answer lines continue on the next three pages.

Geographical enquiry title

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**5. (e) continued.**

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**5. (e) continued.**

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**Turn over**

5. (e) continued.

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(Total for Question 5 = 20 marks)

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**If you answer Question 6, put a cross in this box**

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## 6. Investigating hazardous environments

A group of students has undertaken an enquiry that investigated changes in the weather as part of their studies into hazardous environments.

(a) (i) Identify ONE piece of equipment used to measure air pressure.

**A** barometer

**B** clinometer

**C** compass

**D** thermometer

Answer

(1 mark)

(continued on the next page)

Turn over

6. (a) continued.

(ii) State ONE risk the students should have prepared for when carrying out their hazardous environment fieldwork.

(1 mark)

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(continued on the next page)

6. continued.

(b) Study Figure 6a in the Resource Booklet.

It shows some data about the average temperature at the **10** sites where data was collected.

Calculate the range in temperature.

You **MUST** show all your working in the space below.

(2 marks)

\_\_\_\_\_ °C

(continued on the next page)

Turn over

**6. continued.**

- (c) (i) Study Figure 6b in the Resource Booklet and Figure 6c in the Diagram Booklet. Figure 6c shows a graph.**

**Plot the data for sites 1 and 3, from Figure 6b (shown in the Resource Booklet), on Figure 6c in the Diagram Booklet.**

**(2 marks)**

- (ii) Draw a line of best fit on Figure 6c in the Diagram Booklet.**

**(1 mark)**

**(continued on the next page)**

6. (c) continued.

(iii) Suggest ONE reason for the relationship shown on Figure 6c.

(2 marks)

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(continued on the next page)



6. continued.

(d) Explain ONE OTHER primary data collection method students might have found useful in their weather enquiry.

(3 marks)

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(continued on the next page)

6. continued.

(e) You have studied a hazardous environment as part of your own geographical enquiry.

Evaluate the accuracy and reliability of your data collection methods.

(8 marks)

Answer lines continue on the next three pages.

Geographical enquiry title

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**6. (e) continued.**

[illegible]

**Turn over**

**6. (e) continued.**

[illegible]

**Turn over**

6. (e) continued.

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(Total for Question 6 = 20 marks)

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**TOTAL FOR SECTION B = 20 MARKS**

**TOTAL FOR PAPER = 70 MARKS**

**END OF PAPER**

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