Write your name here

Surname	Other names

Pearson Edexcel
International GCSE

Centre Number | | | | | |

Candidate Number | | | | |

Geography

Level 1/2
Paper 1: Physical geography

Sample assessment material for first teaching September 2017
Time: 1 hour 10 minutes

Paper Reference
4GE1/01

You must have:
Resource Booklet, calculator

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- 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
  – *there may be more space than you need.*
- Calculators may be used.
- **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.*

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ▶

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SECTION A

Answer TWO questions from this section.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

If you answer Question 1 put a cross in the box ☐ .

1 River environments

(a) Identify the meaning of the term 'groundwater flow'.

(1)

☐	**A** Movement of water over the Earth's surface
☐	**B** Movement of water within the soil
☐	**C** Movement of water through the rocks below the soil
☐	**D** Movement of water through plants and trees

(b) (i) Identify **one** process of river erosion.

(1)

☐	**A** Suspension
☐	**B** Abrasion
☐	**C** Channelisation
☐	**D** Traction

(ii) State **one** physical factor affecting the rate of river erosion.

(1)

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(iii) Explain **one** type of physical weathering in river valleys.

(2)

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

Suggest **two** factors that have led to the river regime shown on Figure 1a.

(4)

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(d) Explain **one** way that human activity has reduced water quality.

(3)

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(e) Study Figure 1b below.

(Source: © Terry Smith Images/Alamy Stock Photo)

Figure 1b

A river landscape in Arkansas, USA

Identify landform X shown in Figure 1b.

(1)

.....

(f) Explain the formation of a waterfall.

(4)

(g) Study Figures 1c and 1d in the Resource Booklet.

Analyse the differences in the hydrographs for rivers P, Q and R.

(8)

(Total for Question 1 = 25 marks)

If you answer Question 2 put a cross in the box ☐ .

2 Coastal environments

(a) Identify **one** type of soft engineering used to manage coastal landscapes.

(1)

☒	**A** Groynes
☒	**B** Beach nourishment
☒	**C** Revetments
☒	**D** Riprap

(b) (i) Identify **one** process of marine erosion.

(1)

☒	**A** Hydraulic action
☒	**B** Saltation
☒	**C** Acid rain
☒	**D** Freeze-thaw

(ii) State **one** type of mass movement that affects coastal landscapes.

(1)

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(iii) Explain **one** type of biological weathering on cliffs.

(2)

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

Suggest **two** factors that have led to the differences in coastal retreat shown in Figure 2a.

(4)

1 .....

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2 .....

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(d) Explain **one** cause of coastal flooding.

(3)

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(e) Study Figure 2b below.

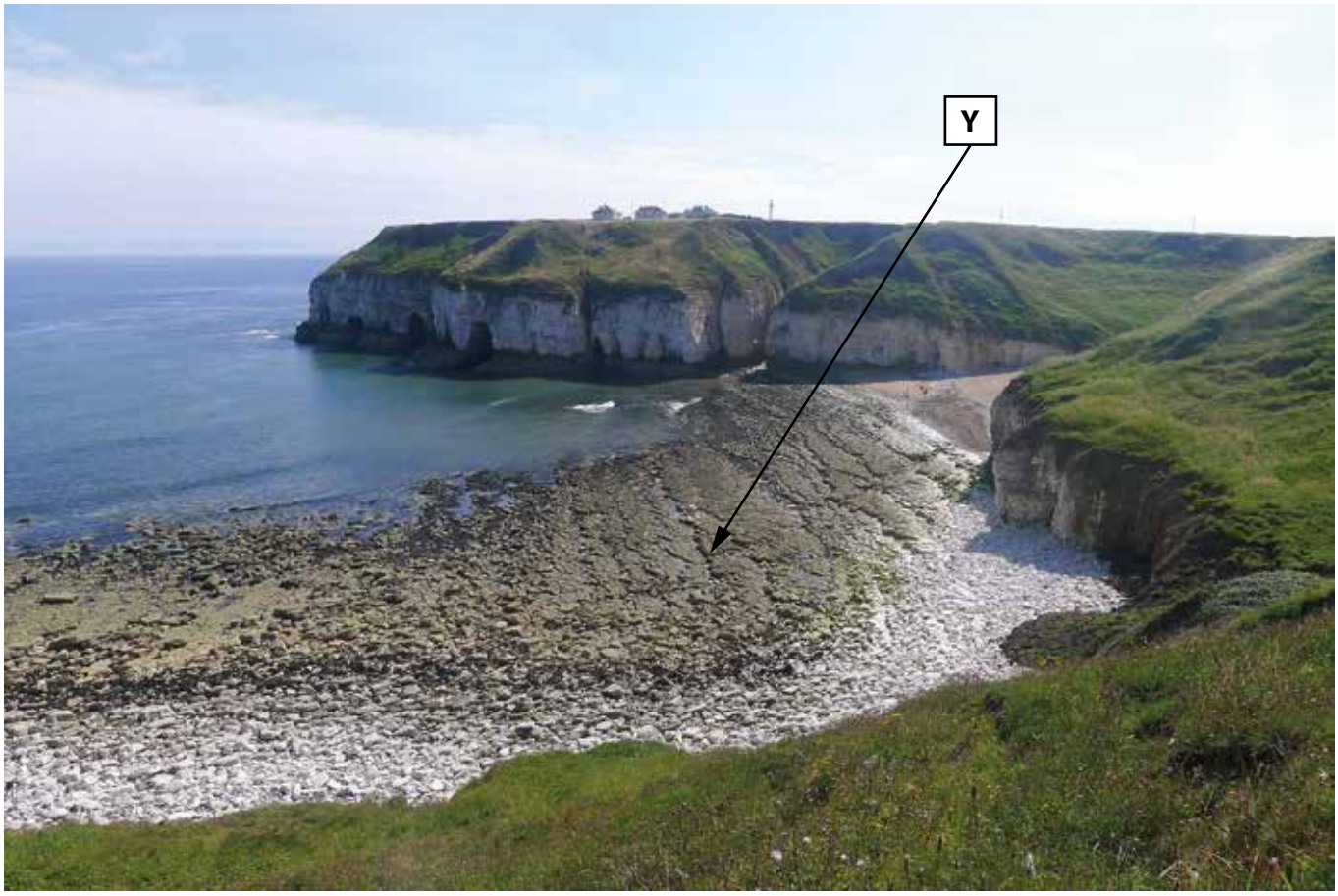

Figure 2b

A coastal landscape in East Yorkshire, England

Identify landform Y shown in Figure 2b.

(1)

.....

(f) Explain the formation of a spit.

(4)

(g) Study Figures 2c, 2d and 2e in the Resource Booklet.

Analyse the threats to small- and large-scale coastal ecosystems from people and their activities.

(8)

(Total for Question 2 = 25 marks)

If you answer Question 3 put a cross in the box ☐ .

3 Hazardous environments

(a) Identify **one** type of tectonic hazard.

(1)

☒	**A** Hurricane
☒	**B** Drought
☒	**C** Flooding
☒	**D** Earthquake

(b) Identify **one** characteristic of a hotspot.

(1)

☒	**A** Volcanoes are constantly erupting
☒	**B** There is a plume of magma below the surface
☒	**C** Tectonic plates are moving past each other
☒	**D** Many fold mountains are found there

(c) (i) State **one** way people could prepare for an earthquake in a **developed** country.

(1)

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(ii) Explain **one** way short-term relief helps to reduce earthquake impacts in a **developing** country.

(2)

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

Suggest **two** reasons for the differences in the numbers of people affected by earthquake disasters shown in Figure 3a.

(4)

1 .....

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2 .....

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(e) Explain **one** impact of a volcanic eruption.

(3)

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(f) Study Figure 3b below.

Figure 3b

An area of volcanic activity in Antigua

Identify **one** advantage of living near the volcano shown in Figure 3b.

(1)

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(g) Explain the formation of a volcano at a destructive plate margin.

(4)

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

Analyse the differences between these three earthquakes.

(8)

(Total for Question 3 = 25 marks)

TOTAL FOR SECTION A = 50 MARKS

SECTION B

Geographical enquiry

Answer ONE question only from this section.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

If you answer Question 4 put a cross in the box ☐ .

4 Investigating river environments

Study Figure 4a in the Resource Booklet. It shows the data collected for an investigation about changes in a river channel.

(a) (i) Identify the correct unit for velocity in Figure 4a.

(1)

☒	**A** m^2
☒	**B** m/s
☒	**C** m^3
☒	**D** m

(ii) Calculate the mean width of the river shown in Figure 4a.

Give your answer to one decimal place.

You must show all your workings in the space below.

(2)

..... m

Using the data in Figure 4a:

(iii) plot the points for Site 4 and Site 7 on Figure 4b.

(2)

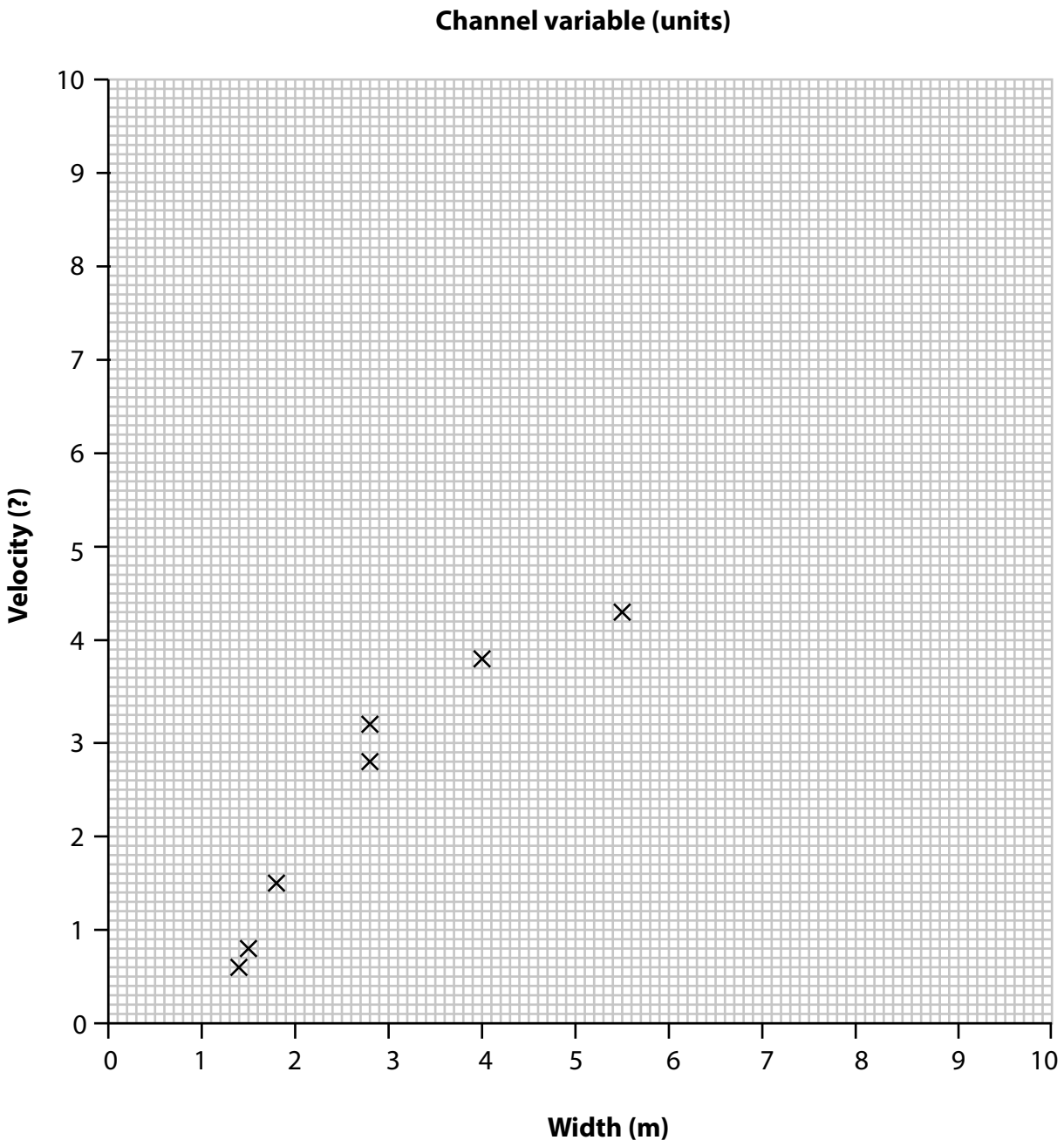

Figure 4b

(iv) draw a line of best fit on Figure 4b.

(1)

(v) explain **one** reason for the relationship shown on Figure 4b.

(2)

(b) Study Figure 4c in the Resource Booklet. It shows information about the sampling strategy used in the collection of river data.

Explain **one** advantage and **one** disadvantage of using this sampling strategy.

(4)

Chosen sampling strategy

Advantage

Disadvantage

You have studied a river channel as part of your own geographical enquiry.

(c) Evaluate the accuracy of your conclusions.

(8)

Enquiry question

(Total for Question 4 = 20 marks)

If you answer Question 5 put a cross in the box ☐ .

5 Investigating coastal environments

Study Figure 5a in the Resource Booklet. It shows the data collected for an investigation about changes along a coastline.

(a) (i) Identify the correct unit for sediment long axis size in Figure 5a.

(1)

☒	**A** mm
☒	**B** m^2
☒	**C** mm^3
☒	**D** m/s

(ii) Calculate the mean gradient on Figure 5a.

Give your answer to one decimal place.

You must show all your workings in the space below.

(2)

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Using the data in Figure 5a:

(iii) plot the points for Site 4 and Site 7 on Figure 5b.

(2)

Beach variable (units)

Sediment long axis size (?)

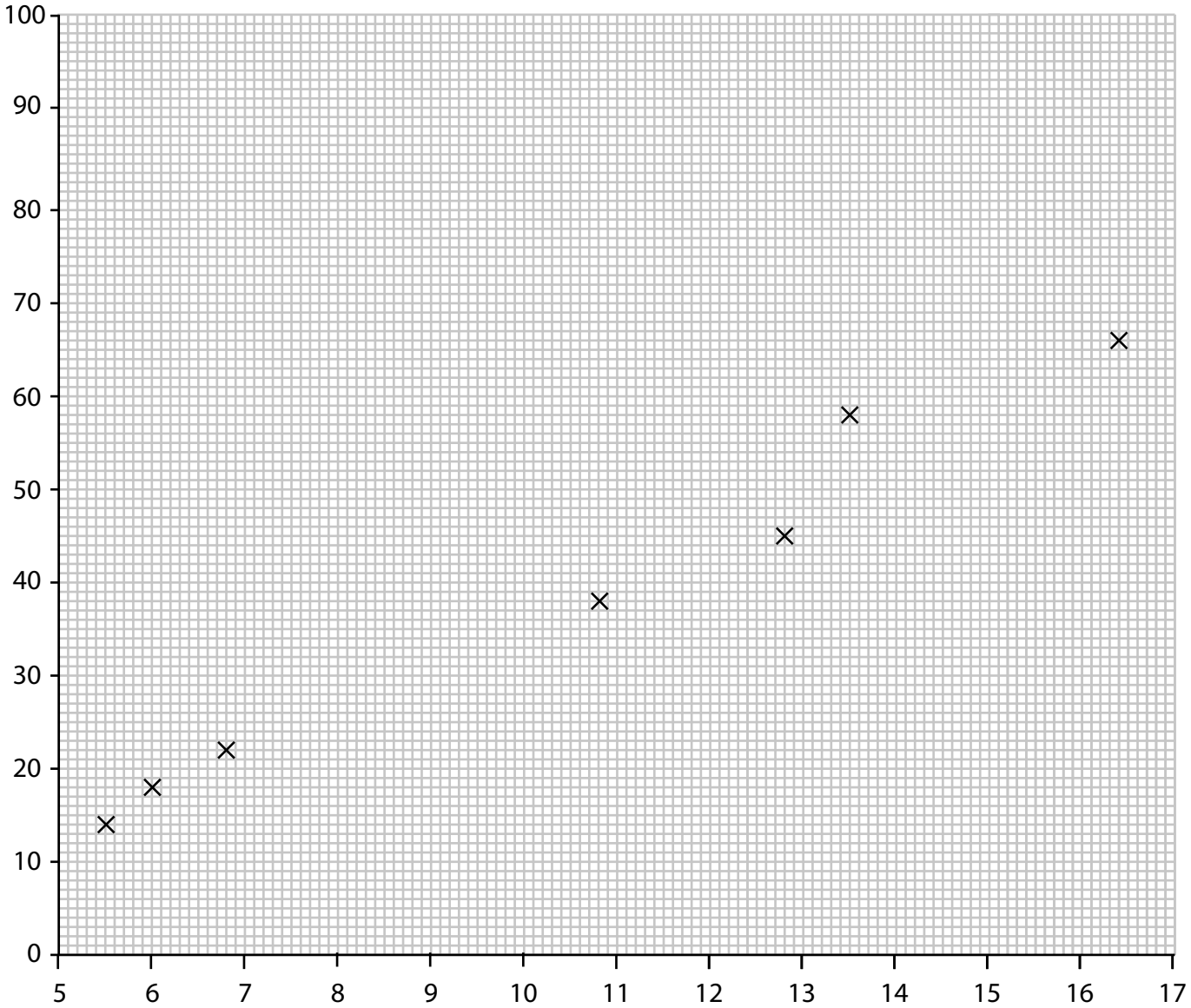

Figure 5b

(iv) draw a line of best fit on Figure 5b.

(1)

(v) explain **one** reason for the relationship shown on Figure 5b.

(2)

(b) Study Figure 5c in the Resource Booklet. It shows information about the sampling strategy used to collect beach data.

Explain **one** advantage and **one** disadvantage of using this sampling strategy.

(4)

Chosen sampling strategy

Advantage

Disadvantage

You have studied coastal processes as part of your own geographical enquiry.

(c) Evaluate the accuracy of your conclusions.

(8)

Enquiry question

(Total for Question 5 = 20 marks)

If you answer Question 6 put a cross in the box ☐ .

6 Investigating hazardous environments

Study Figure 6a in the Resource Booklet. It shows the data collected for an investigation about a tropical storm.

(a) (i) Identify the correct unit for air pressure in Figure 6a.

(1)

☒	**A** mm
☒	**B** m^2
☒	**C** mb
☒	**D** °C

(ii) Calculate the mean wind speed in Figure 6a.

Give your answer to one decimal place.

You must show all your workings in the space below.

(2)

..... knots

Using the data in Figure 6a:

(iii) plot the points for Day 4 and Day 7 on Figure 6b.

(2)

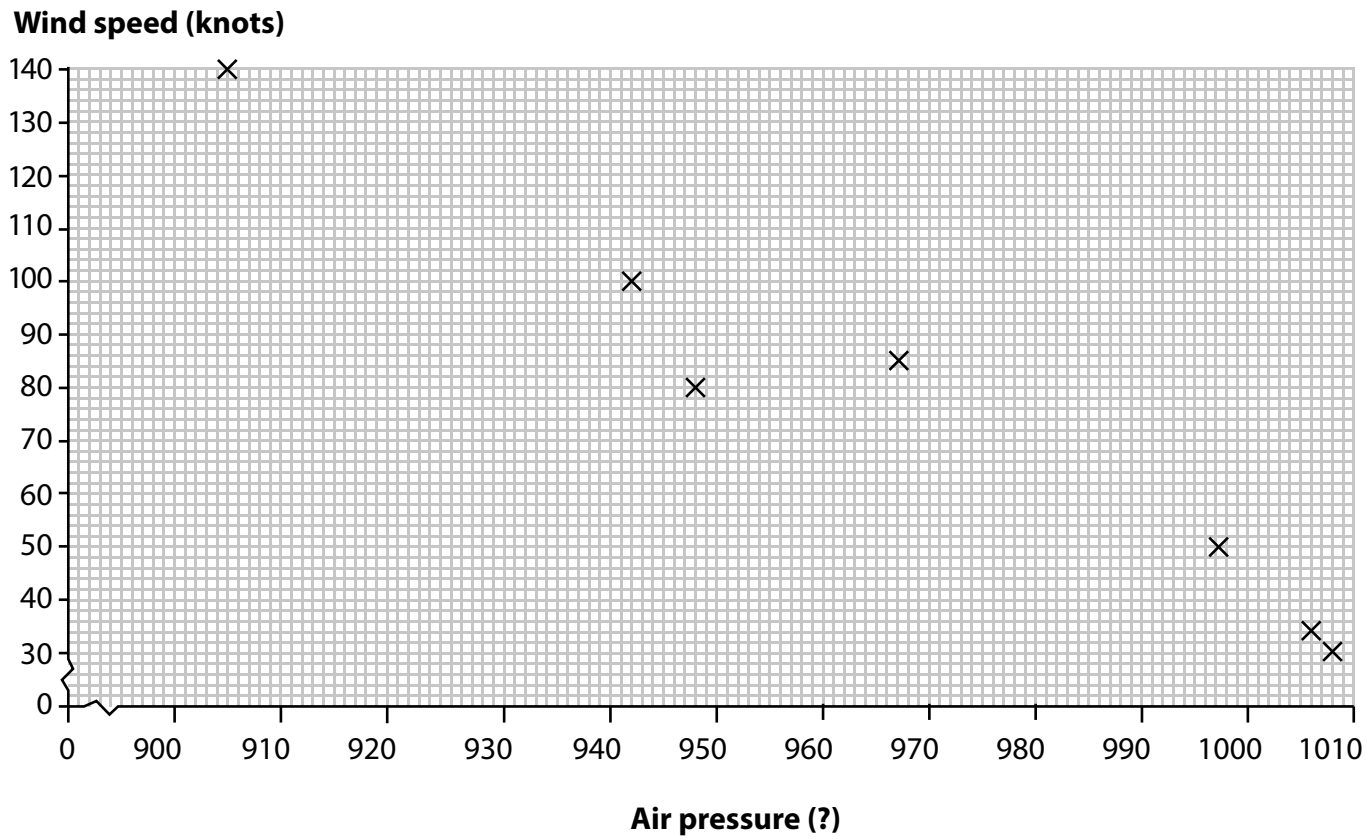

Figure 6b

(iv) draw a line of best fit on Figure 6b.

(1)

(v) explain **one** reason for the relationship shown on Figure 6b.

(2)

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(b) Study Figure 6c in the Resource Booklet. It shows information about the sampling strategy used to collect weather data.

Explain **one** advantage and **one** disadvantage of using this sampling strategy.

(4)

Chosen sampling strategy

Advantage

Disadvantage

You have studied the physical processes involved in an extreme weather event as part of your own geographical enquiry.

(c) Evaluate the accuracy of your conclusions.

(8)

Enquiry question

(Total for Question 6 = 20 marks)

TOTAL FOR SECTION B = 20 MARKS
TOTAL FOR QUESTION PAPER = 70 MARKS

Pearson Edexcel International GCSE

Geography

Level 1/2

Paper 1: Physical geography

Sample assessment material for first teaching September 2017

Resource Booklet

Paper Reference

4GE1/01

Do not return this Resource Booklet with the question paper.

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SECTION A

The following resource relates to Question 1.

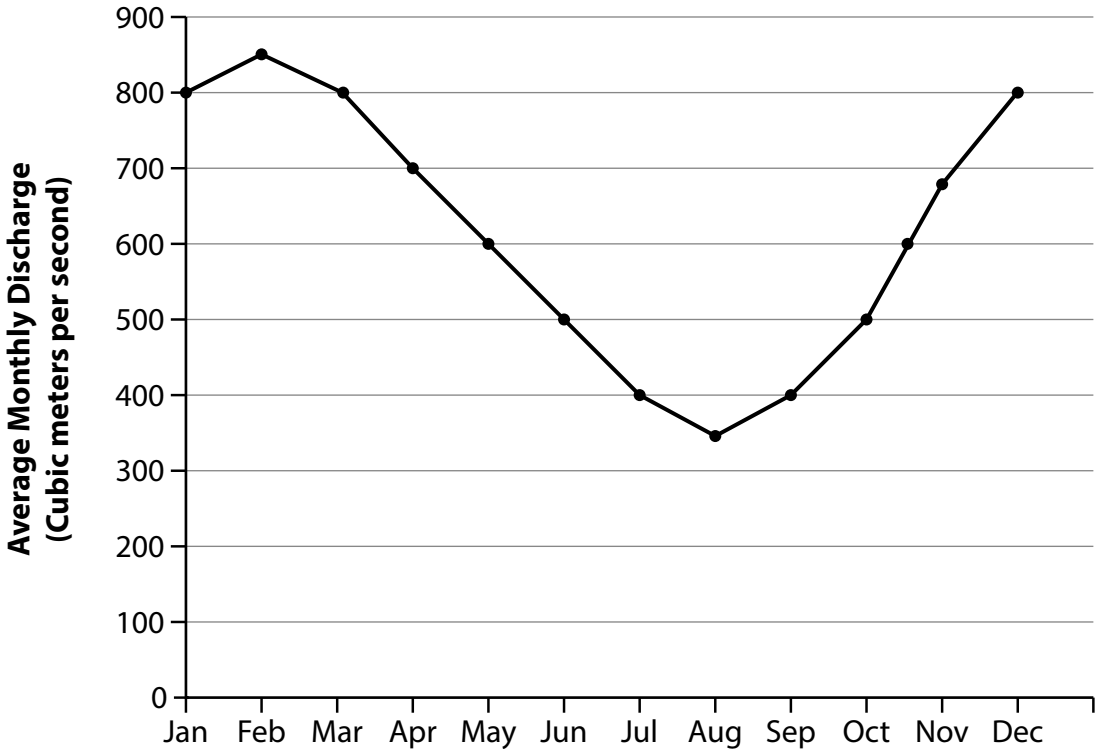


Figure 1a

River regime of the River Severn in England

The following resource relates to Question 1.

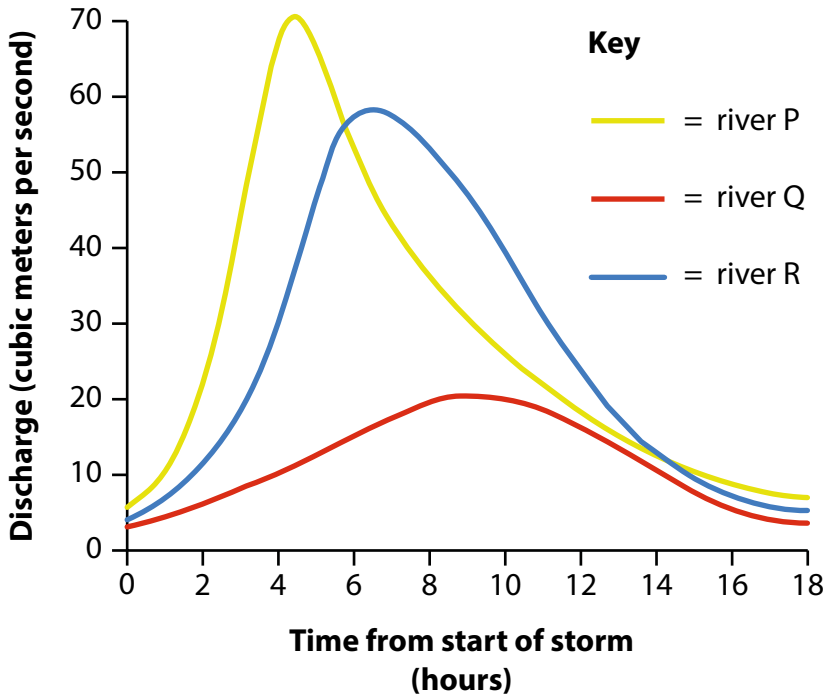
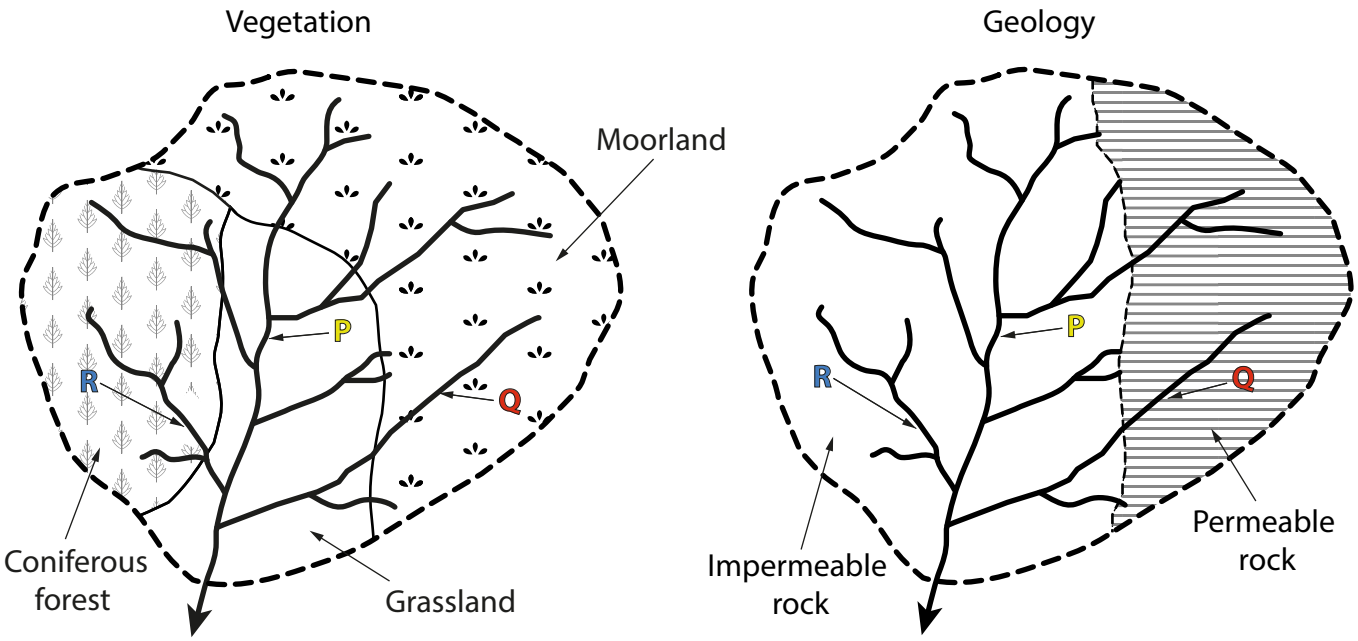


Figure 1c

Hydrograph for river P, river Q and river R



Key

P = hydrograph station on river P

Figure 1d

Types of vegetation and geology in the drainage basin of river P, river Q and river R

The following resource relates to Question 2.

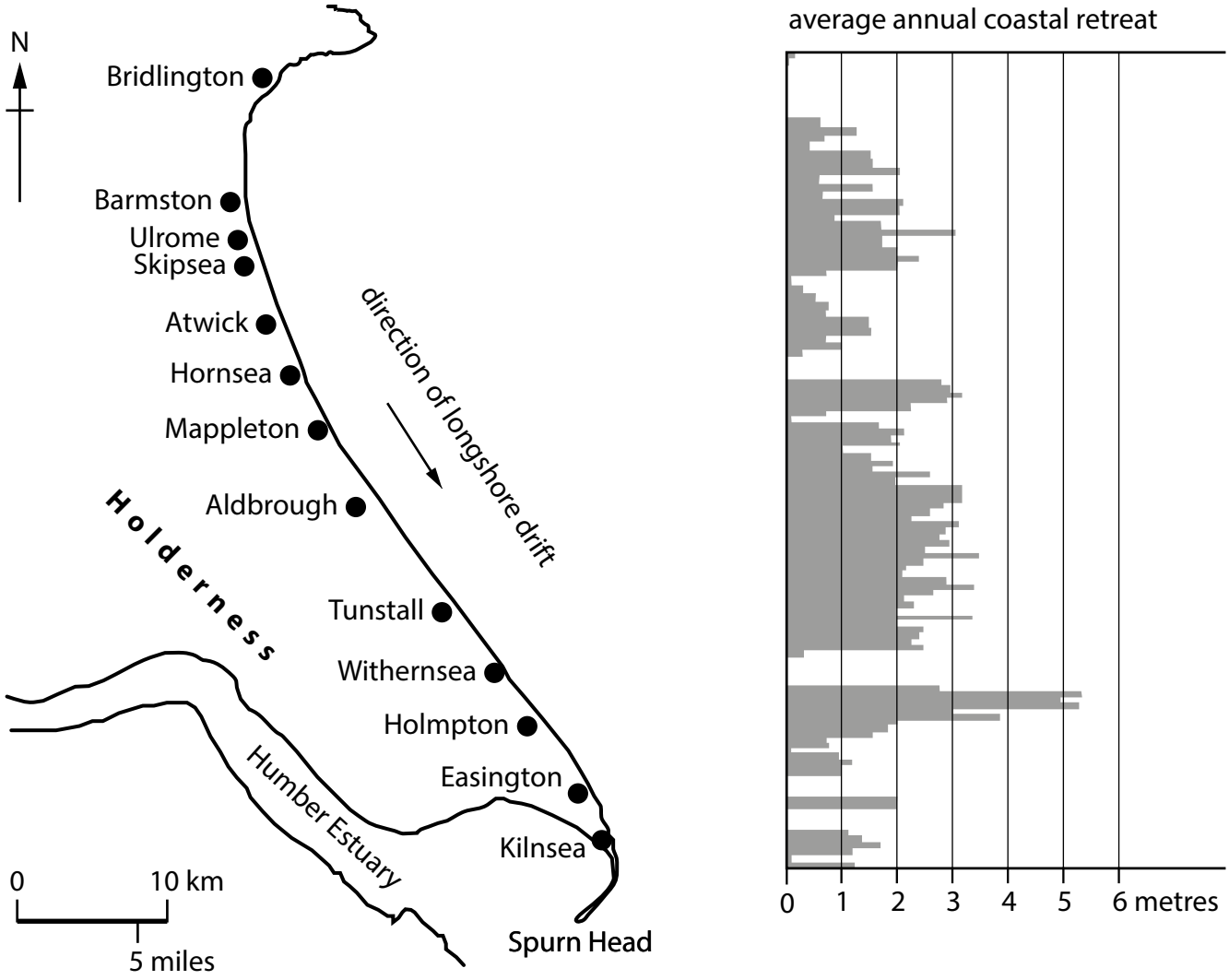
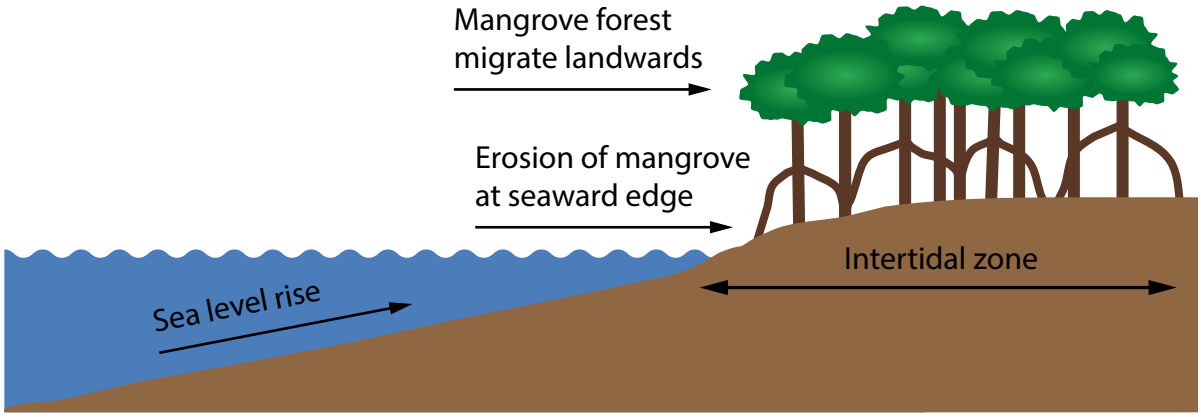


Figure 2a

Coastal retreat along the Holderness coastline in England

The following resource relates to Question 2.

Without sea defences



With sea defences

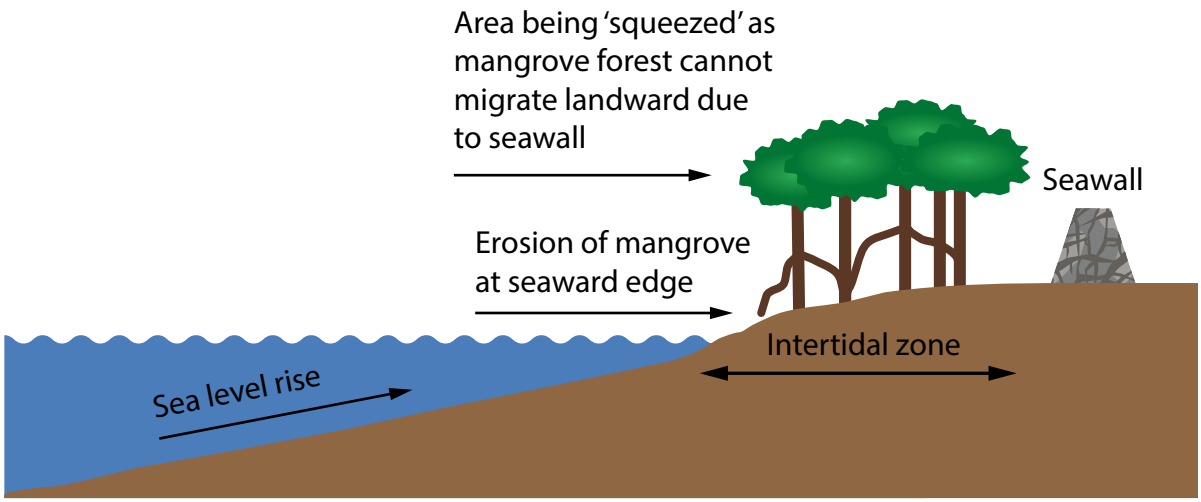


Figure 2c

Impact of building sea defences in areas with a mangrove ecosystem

The following resources relate to Question 2.

Figure 2d

A planned development project in an area with a mangrove ecosystem

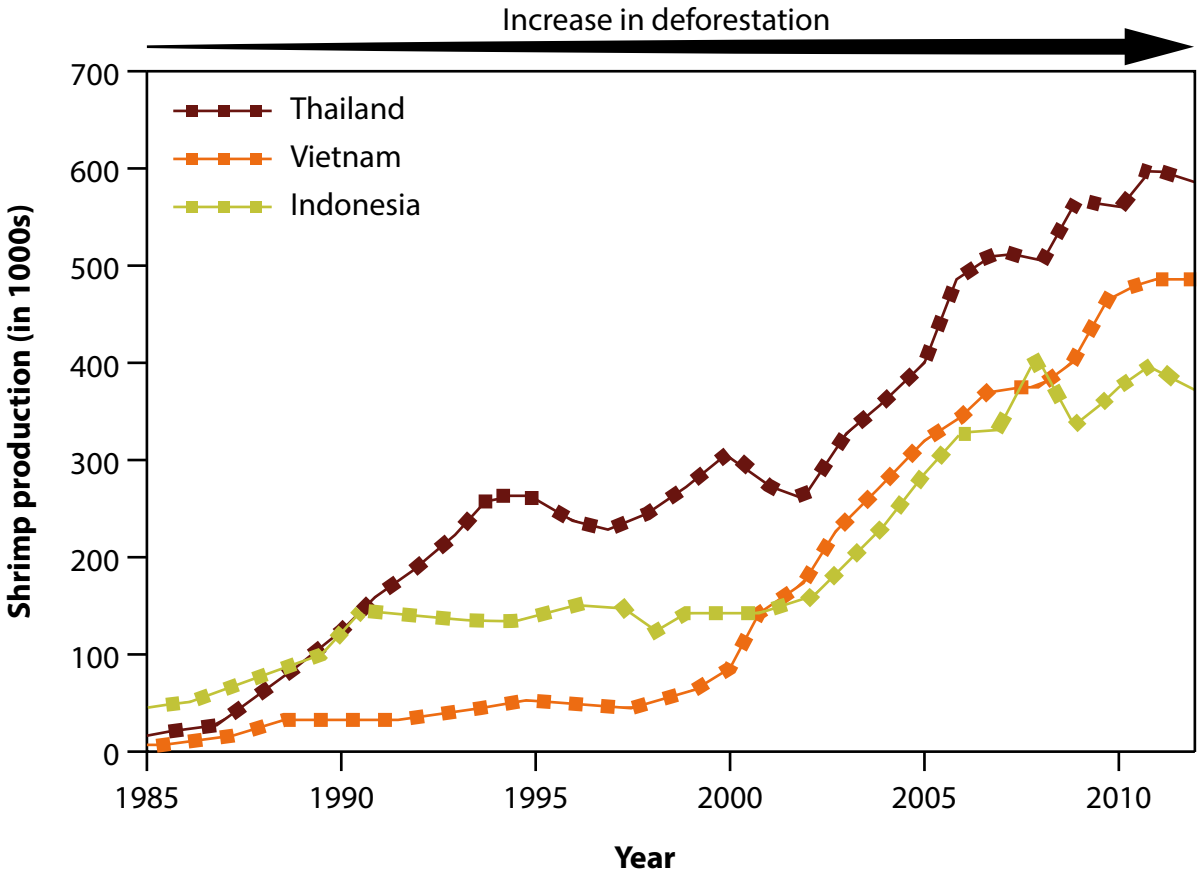


Figure 2e

Shrimp production in areas of mangrove forest, 1985-2010

The following resources relate to Question 3.

Africa	Americas	Asia	Europe	Oceania
53	10,035	73,999	284	632

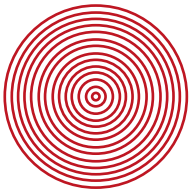
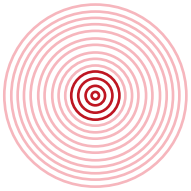
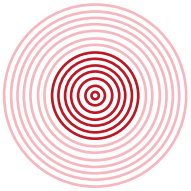
Very High Human Development (VHHD)	High Human Development (HHD)	Medium Human Development (MHD)	Low Human Development (LHD)
5,188	56,744	12,599	10,470

(Source: Adapted from ED-DAT, CRED 2016 World Disaster Report)

Figure 3a

Number of people affected by earthquakes, in thousands, (2006-2015) by region and level of development.

The following resources relate to Question 3.

	China	Italy	Haiti
	 12 May 2008	 6 April 2009	 12 Jan 2010
Magnitude	**7.9**	**6.3**	**7.0**
Amplitude	Each step in magnitude = 10 times increase in amplitude (amount ground moves) 		
Deaths	87 476	295	230 000
Gross Domestic Product (GDP) per person, 2014	$7 590	$35 223	$824

Short term impacts of earthquake

China

Haiti

Italy

(Source for China image: © Andy Wong/AP/Press Association Images)
(Source for Italy image: © Marco Di Lauro/Stringer)

Figure 3c

Information about three different earthquakes

SECTION B

The following resource relates to Question 4.

Site number	Channel variable (units)	
	Width (m)	Velocity (?)
1	1.4	0.6
2	1.5	0.8
3	1.8	1.5
4	2.1	2.5
5	2.8	2.8
6	2.8	3.2
7	3.5	3.2
8	4.0	3.8
9	5.5	4.3

Figure 4a

River data collected by a group of students

The following resource relates to Question 4.

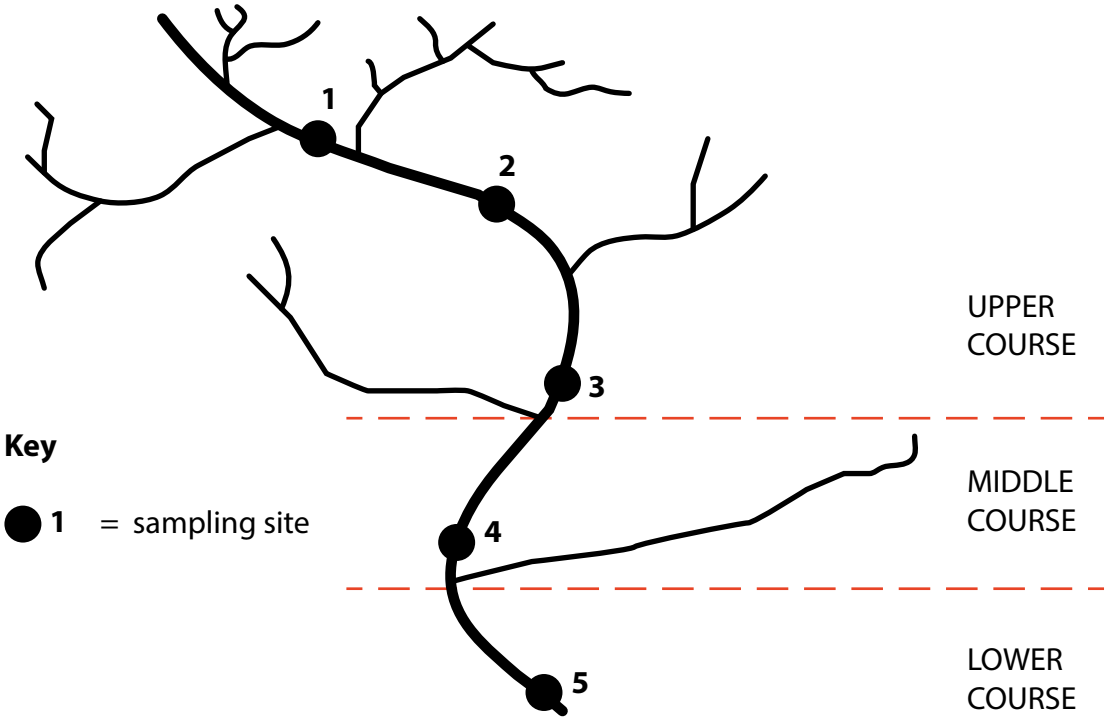


Figure 4c

Sampling strategy used by students to collect river data

The following resource relates to Question 5.

Site number	Beach variable (units)	
	Gradient (°)	Sediment long axis size (?)
1	15.4	66
2	13.5	58
3	12.8	45
4	12.1	45
5	10.8	38
6	6.8	22
7	6.5	22
8	6.0	18
9	5.5	14

Figure 5a

The following resource relates to Question 5.

Beach data collected by a group of students

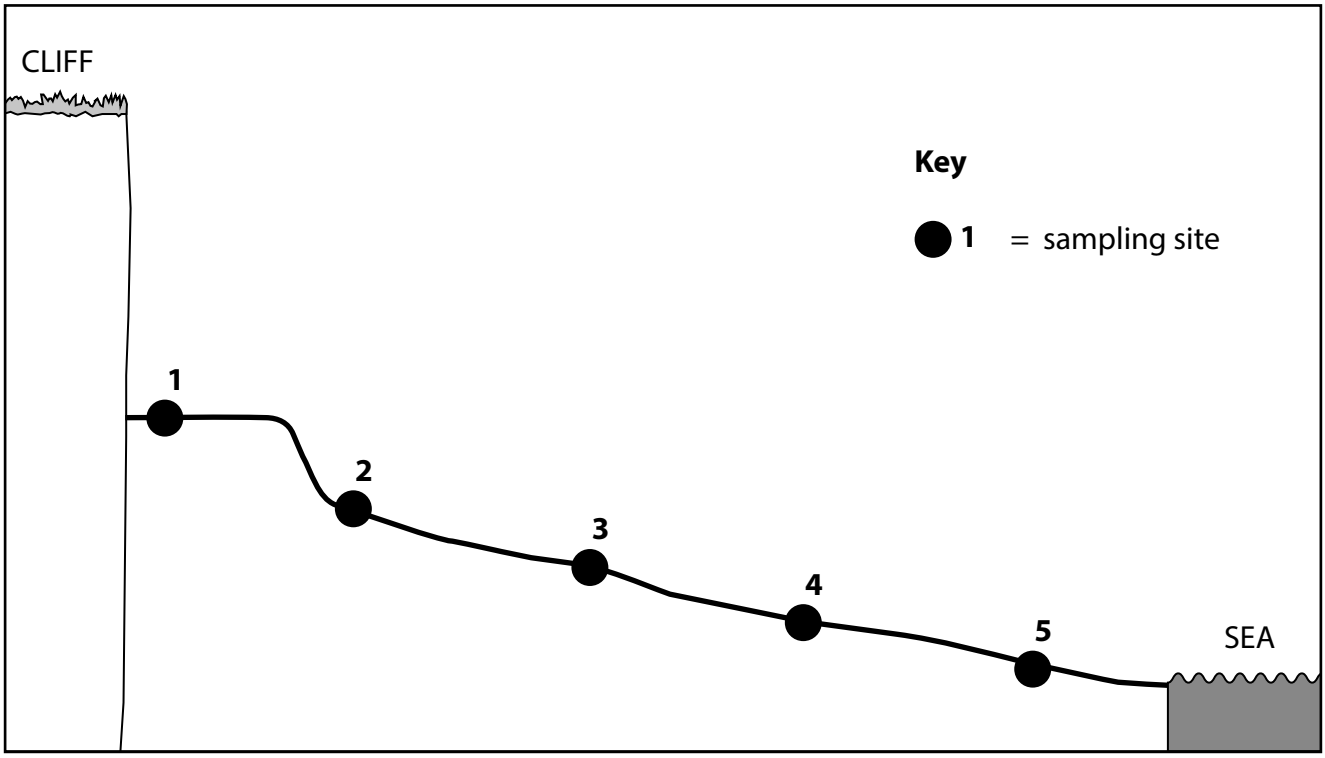


Figure 5c

Sampling strategy used by students to collect beach data

The following resource relates to Question 6.

Day number	Weather variable (units)	
	Air pressure (?)	Wind speed (knots)
1	1008	30
2	1006	35
3	997	50
4	983	70
5	968	85
6	942	100
7	930	125
8	905	140
9	948	80

Figure 6a

Weather data collected by a group of students

The following resource relates to Question 6.

Weather Diary: August 2015	
Date for data collection	Time for data collection
23rd August	6:00pm
24th August	6:00pm
25th August	6:00pm
26th August	6:00pm
27th August	6:00pm

Figure 6c

Sampling strategy used by students to collect weather data