



Pearson Edexcel GCSE in Geography,  
Specification A

1GA0 03

PAZ 3 Year 11

Unfamiliar Fieldwork

Ecosystems

Total 50 marks

## Investigating physical environments

### Either (Rivers)

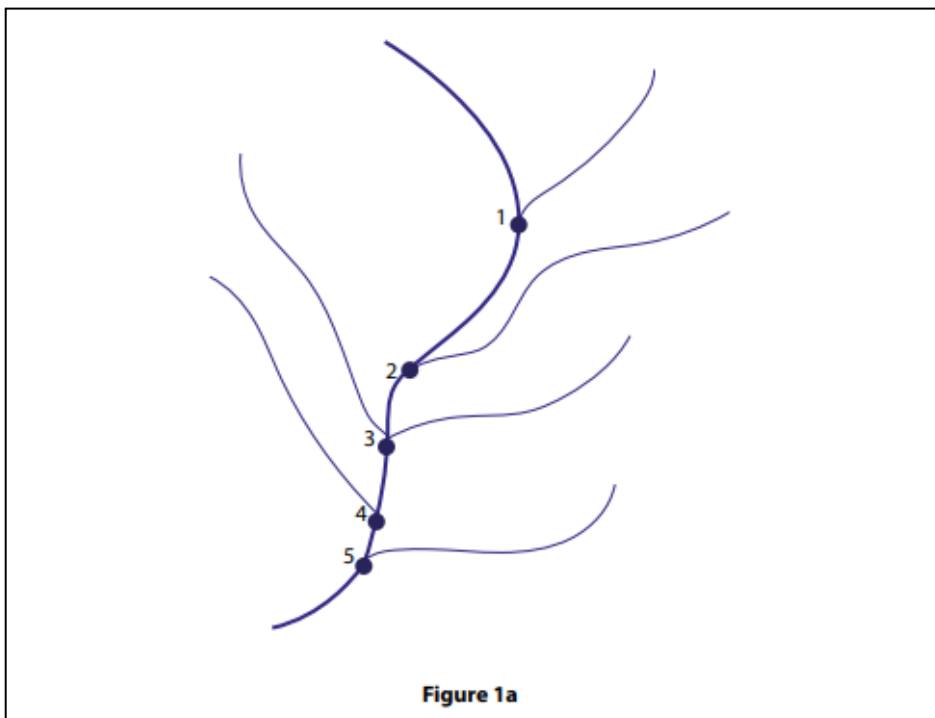
- 1 A group of students was collecting data along the length of a river as part of an investigation into changes in a river channel.
- (a) The students had planned to use a flow meter to measure the velocity of the river, but one of their chosen sites was too shallow.

State one way they could adapt their technique. (1)

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- (b) Give one piece of equipment, other than a flow meter, they would need to use to investigate river discharge. (1)

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Study Figure 1a in the Resource Booklet. It shows a sketch of sites used to collect river data.



- (c) Explain one reason why the students chose a stratified sampling approach. (3)

Study Figure 1b in the Resource Booklet.

Channel variable	Units	Site 1	Site 2	Site 3	Site 4	Site 5
Width (m)	(m)	0.45	0.52	0.78	0.85	1.10
Depth (m)	(m)	0.10	0.13	0.16	0.80	0.21
Cross-sectional area		0.05	0.07	0.12	0.68	0.23
Velocity	(m/sec)	0.45	0.47	0.56	0.55	0.51
Discharge	(m <sup>3</sup> /sec)	0.02	0.03	0.07	0.37	0.12

**Figure 1b**  
**A table of river data collected by a geography student.**

(di) Which of the following are the correct units used for cross-sectional area in Figure 1b. (1)

- A** m<sup>2</sup>
- B** m<sup>3</sup>
- C** cm<sup>2</sup>
- D** mm<sup>2</sup>

(dii) Calculate the mean and median depth of the river. (2)

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(diii) Using Figure 1b, explain one reason why a student might choose to use the results from the median, rather than the mean. (2)

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2 Figure 4 shows the results from a student's research into types of transport used throughout one day in Keswick, a rural market town in the Lake District.

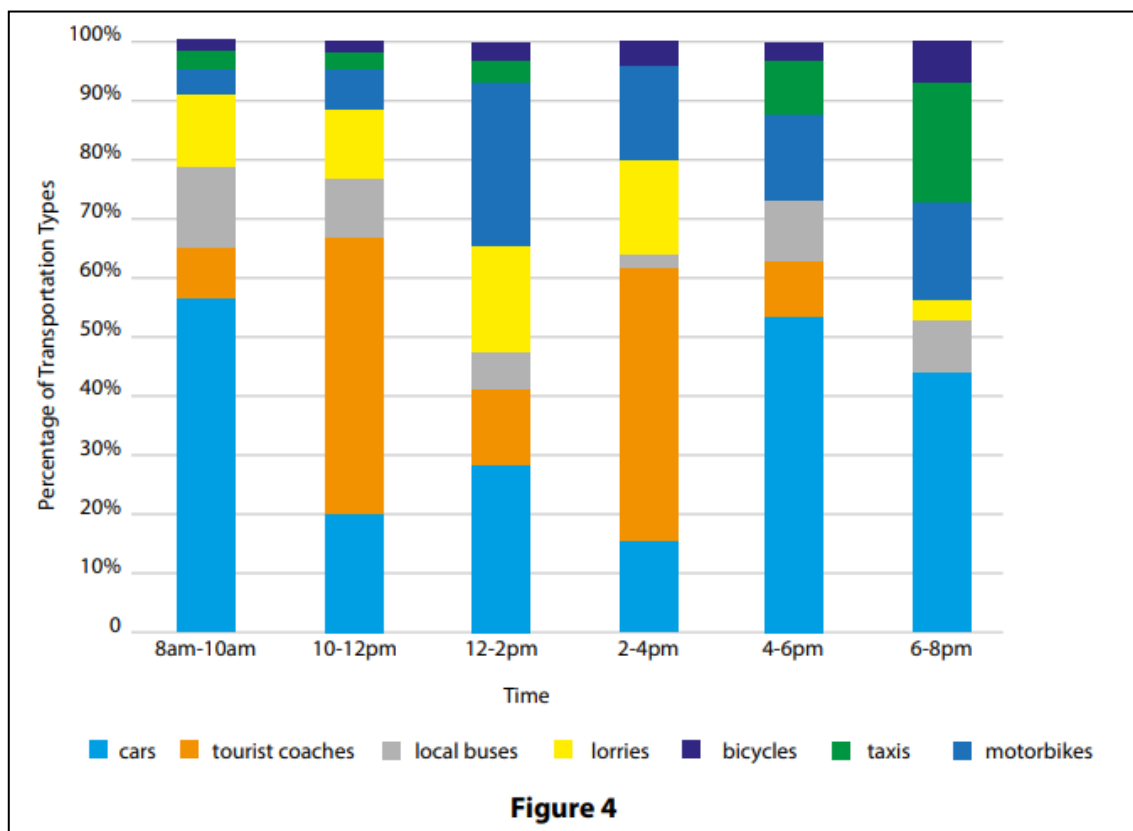
The aim of the student's investigation was to investigate a popular tourist spot in the North West of England.

The student surveyed vehicle types at six points near the town centre and had seven categories of vehicle, to find out their variation at different times of the day.

### My Findings

- CCars are the dominant transportation type throughout the day.
- Local buses run an inconsistent service.
- Motorbikes are the smallest proportion of traffic for each time period.
- Tourist coaches represent the highest proportion of traffic between the hours of 12 pm to 2 pm and 2 pm to 4pm.

Study Figure 4 in the Resource Booklet.







**Figure 4a**

**Student conducting a questionnaire about environmental quality for a rural study**

- (i) Explain one advantage and one disadvantage of the technique shown in Figure 4a. (4)

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- (ii) The student used a random sampling strategy to collect the data. Explain one disadvantage of using this sampling strategy. (3)

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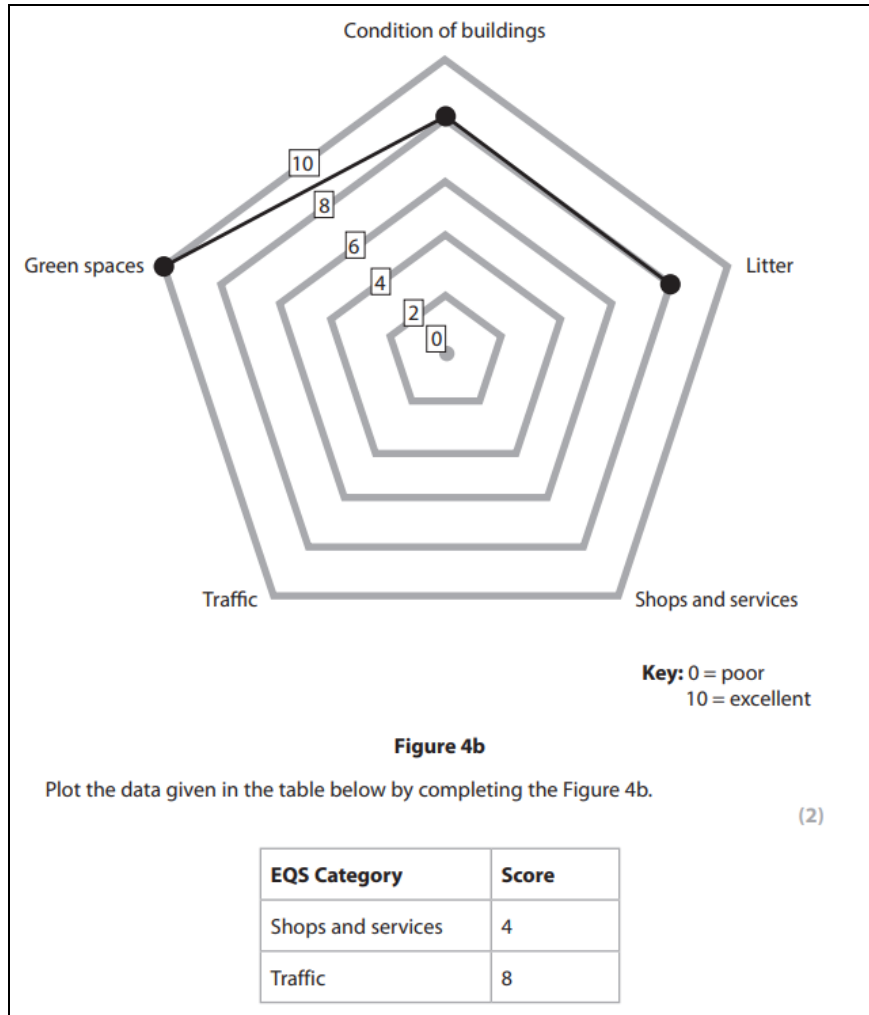
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(c) Study Figure 4b below. It shows a radial graph for an Environmental Quality Survey (EQS) completed at a rural location.

Complete using data (2)







**Q2.**

Tropical rainforests provide goods and services for people, but are also under threat. Study the figure below.

The amount of land lost to deforestation in 1995 was 29 059 km<sup>2</sup>.  
In 2015 the amount of land lost to deforestation had fallen by 80%.

**Figure 7d**

**Information about deforestation in Brazil**

(i) Calculate the amount of land lost to deforestation in 2015.

Answer to one decimal place.

You must show your working in the space below.

(2)

(ii) Explain **two** causes of deforestation in tropical rainforests.

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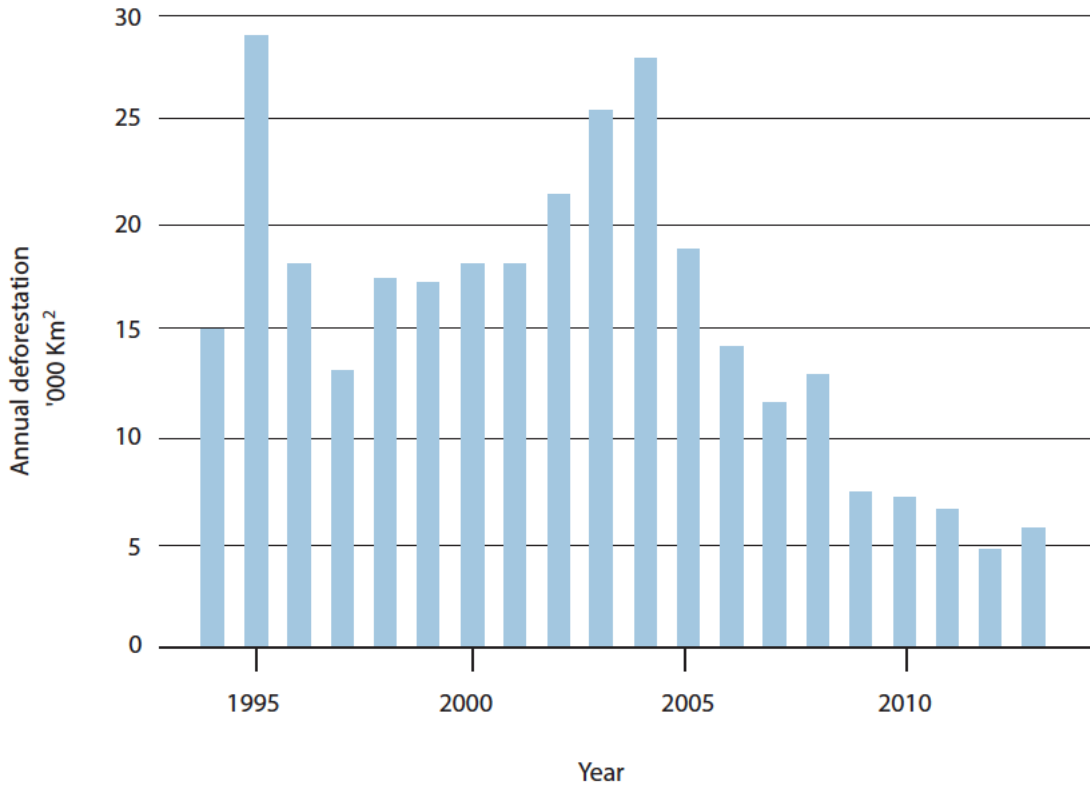
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(4)

(iii) Study the figure below.



**Annual rate of deforestation in Brazil, 1994–2013**

Suggest **one** reason why the annual rate of deforestation has changed since 2004.

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(4)

**Q3.**

Tropical rainforests provide goods and services for people, but are also under threat. Study the figure below. Calculate the range and median annual deforestation (km<sup>2</sup>) shown on the figure.

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(2)

Year	Annual deforestation (km <sup>2</sup> )
2005	19 014
2006	14 285
2007	11 651
2008	12 911
2009	7 464
2010	7 000
2011	6 418
2012	4 571
2013	5 891

(Source from: [http://rainforests.mongabay.com/amazon/deforestation\\_calculations.html](http://rainforests.mongabay.com/amazon/deforestation_calculations.html))

**Q4.**

Biodiversity is influenced by the interrelationship and interaction of biotic and abiotic factors. Define the term 'abiotic'.

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(1)

