Section B: Unfamiliar fieldwork

Designing a suitable question for an enquiry

An enquiry is a question that you set out to prove or disprove. A hypothesis is very similar, though it is a statement rather than a question. Both can be either physical or human in nature:

- **Physical** enquiries will often look at a natural landscape such as a river or coast and examine the processes that form this landscape or the ways in which humans are trying to manage it.
  - How successful is coastal management along the coast at...?
  - How do basin and river channel characteristics influence flood risk along river...?
- **Human** enquiries focus on issues in man-made environments, whether urban or rural such as economic growth, challenges (housing, transport, waste) and sustainability. Exploring issues related to people e.g. ways of life (ethnicity, leisure), ageing or migration.
  - How and why are there variations in quality of life for different census output...?

Identifying risks

Risk assessments help to understand the risk and avoid potentially dangerous situations, e.g. walking alongside fast-flowing streams or carrying expensive equipment through areas of high crime.

A good risk assessment will also consider what to do if a difficult situation arises.
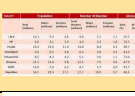
Data Collection

Primary data	Secondary data
Fieldwork data which you collect yourself – first-hand information that comes from you and people you have worked with.	Information that another person, group or organisation has collected. Important in providing background information and a context for the enquiry. It helps to understand more about places and the kinds of questions that might be relevant.

Collecting primary data

- **Sample size**: More measurements will generally produce more reliable data but this is time-consuming, and group collection of data can save time.
- **Survey locations/sites**: Where and how will data be collected? E.g. along transect
- **Accuracy:** Calculating averages, repeating measurements...

Quantitative data	Qualitative data
'hard' (objective data) including statistics coming from making measurements.	'soft' (subjective data) which comes from asking people's opinions, taking photos or making sketches.

All these techniques need equipment. 3 types of sampling:
- **Random** – selecting a person to interview or site to measure, at random. Random sampling is unbiased as particular people or places are not specifically selected.
- **Systematic** – working to a system to collect data, e.g. every 20m of road
- **Stratified** – Stratified sampling - dividing sampling into groups, e.g. three sites from each section of coastline, or five people from each age range.
   - **Stratified random** - random samples are taken from within certain categories.
   - **Stratified systematic** - regular samples are taken from within certain categories.
	- Written site descriptors
	- Taking photographs
	- Recording videos
	- Field sketches

Presenting fieldwork data

Method	Image	When you'd use it	Advantages
Cartographic	Life Expectancy in the US	To show the data collected at different locations.	Easier to compare patterns and locations and shows distribution.
Visual		To show change over time.	Helps to show how places have changed.
Tables		To collate data, showing raw date that you and your group collected.	Can help to identify anomalies.
Graphical		Used to show links between continuous and categoric data.	Show data and patterns clearly – easier to read and compare than a table.

- Continuous data – show change along a line of study
- Categoric data – show classifications
- Where sample sizes are different, turn raw data into percentages and show using pie chart

Analysis

- Identify patterns and trends
- Make links between different sets of data
- Identify anomalies
- Explain reasons for patterns

Quantitative techniques
- **Median** – middle value
- **Mode** – number that appears most
- **Range** – difference between highest and lowest
- **Quartiles** – lower and upper quartiles

Qualitative techniques
- Annotations to a photograph or sketch to highlight the main features of a place

Conclusions

- Refer back to enquiry question
- State the most important data that supports your conclusion
- Comment on anomalies and unexpected results
- Wider geographical significance of study

Exam questions from past papers

Study **Figure 4**, information collected by students about visitors to Bournemouth, a coastal town in Dorset.

Figure 4

Survey of 100 people staying in a hotel
(carried out by questionnaire on a Saturday in August)

Origins of visitors (Where people came from)		Visitor spending	
Scotland	4	Accommodation	19%
North East	8	Shopping	22%
Yorkshire and the Humber	6	Food and drink	30%
East Midlands	14	Attractions and entertainment	11%
East Anglia	6	Travel	15%
South East	20	Other	3%
South West	12		
Wales	4		
West Midlands	16		
North West	8		
Northern Ireland	2		

0 4 . 3 **(a)** Suggest **one** additional question which could be included on the visitor survey. [1 mark]
(b) Give **one** reason why your chosen question might provide useful information for the visitor survey.

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04 3(a) **Suggest one additional question which could be included on the visitor survey.**

Credit any valid additional idea that would give a more accurate picture of visitors to Bournemouth

Questions might relate to:
• Form of transport used to visit Bournemouth
• When the visit took place
• Time taken to reach Bournemouth
• Reason for visit
• Length of stay
• Type of accommodation
• Attractions visited.
• Whether you would return

No credit for "where have you come from?"

AO4 = 1 mark

04 3(b) **Give one reason why your chosen question might provide useful information for the visitor survey.**

Credit any valid reason which is clearly linked to part (a).
Ideas might include;
• Reliance on public transport
• Seasonality
• Popularity of different types of accommodation
• Relative popularity of different types of facility

AO4 = 1 mark

Study **Figure 6**, part of a student's planning sheet in a fieldwork enquiry.

Figure 6

• A – G Data collection points

River — Direction of flow

0 4 . 3 Name the type of sampling method used in **Figure 6**.

Shade **one** circle only.

A Opportunity sampling, selecting points which are easiest to access [1 mark] ⃝

B Random sampling, based on chance ⃝

C Stratified sampling, where more points are chosen from one area ⃝

D Systematic sampling where points are chosen at regular intervals ⃝

0 4 . 4 Suggest why the type of sampling shown in **Figure 6** is not always possible in a fieldwork enquiry. [2 marks]

04 3 **Name the type of sampling method used in Figure 6.**

D: Systematic sampling where points are chosen at regular intervals.

04 4 **Suggest why the type of sampling shown in Figure 6 is not always possible in a fieldwork enquiry.**

Accept suggestions related to any type of enquiry.

1 mark for each identified point OR 2 marks for a developed/linked idea.
Possible ideas might include:
• difficult to get to (1)
• the land might be privately owned (1)
• relief/shape of landscape might make it difficult (1)
• animals in fields (1)
• it might be dangerous (1)
• may not be appropriate when doing questionnaires in an urban area (1)
• may not be possible if equipment to measure distance is lacking (1)

Developed points:
• it might be difficult to get to (1) because of dense vegetation (1)
• the land might be privately owned (1) and part of someone's garden (1)
• there might be farm animals in the field(1) so it would be dangerous to cross (1)
• the land might be marshy (1) so it could be too risky (1)
• there might be a lot of traffic(1) which could make it dangerous(1).

AO3 = 2 marks

A group of students wanted to investigate the hypothesis that 'The size of pebbles in a river is smaller as the river flows downstream'.

In order to do this the students measured the long axis of ten pebbles from three different places (**A**, **B** and **C**) along the river.

Study **Figure 5**, a table showing the results of the survey.

Figure 5

Pebble — Long axis — Direction of flow (downstream)

0   500 m

Place A	Place B	Place C
24 15 21 12	22 14 6 9	19 12 8 4
8 11 19 29	12 17 8 4	6 8 4 11
14 18	9 12	14 20

Results (mm)

0 4 . 6 Suggest **two** ways that the data collection method could be adapted in order to make it more useful.

04 6 **Suggest two ways that the data collection method could be adapted in order to make it more useful.**

1 mark for each identified point.

Possible ideas might include:
• Larger sample size (1)
• More sampling points (1)
• Sampling from different points across the river (1)
• Measure both axes of the pebble/whole size of the pebble (1)
• Making sure that sampling is random (1)
• Measuring different parts of the same river (**not a different river**)

AO4 – 2 marks

A student wanted to investigate deprivation in an area of a city. As part of their enquiry they used the following secondary data (**Figure 6**).

Figure 6

Life expectancy (years)	1981	1991	2001	2011
Study area	67	68	68	70
City average	72	73	77	78

0 4 . 9 Suggest **two** types of primary data that the student could use in their urban deprivation enquiry.

[2 marks]

04 9 **Suggest two types of primary data that the student could use in their urban deprivation enquiry.**

2 x 1 marks

Examples must be appropriate in relation to the aim of the enquiry which was to investigate deprivation. This can include social, economic and environmental data.

Possible ideas might include:
• Questionnaire/Interview
• Environmental quality survey(**not just "survey"**)
• Housing type/quality/price.
• Photographs

AO4 – 2 marks

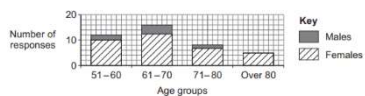Study **Figure 8**, information about a questionnaire survey.

Figure 8

A group of students used a questionnaire to assess whether local facilities for the older population were good enough.

In this area 48% of the population are over 50 years old. Females account for 56% of the age group.

The students completed the questionnaire in the town centre on a Saturday morning.

The following diagram shows the age groups of people who were asked to complete the questionnaire.

Number of responses — Age groups: 51–60, 61–70, 71–80, Over 80 — Key: Males, Females

0 4 . 7 Suggest **two** ways that students might adapt their method in order to obtain more appropriate data. [2 marks]

0 4 . 8 Suggest **two** additional data collection techniques that the students could use to find out if local facilities are good enough for the older population. [2 marks]

04 7 **Suggest two ways that students might adapt their method in order to obtain more appropriate data.**

2x1 mark – Any appropriate ideas which relate to the information given.

Do not accept points about just "doing more surveys"

Ideas might include:
• larger number in the 51-60 age group
• ask more males
• surveys in different places
• surveys at different times/days
• surveys of other ages/age groups

04 8 **Suggest two additional data collection techniques that the students could use to find out if local facilities are good enough for the older population.**

Do not accept named methods with no reference/relevance to the aim of the enquiry ("do a survey/people count/traffic count")

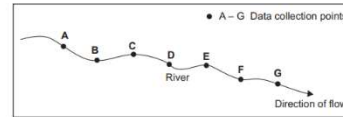2x1 mark – Any appropriate ideas which are clearly relevant to the enquiry.

Ideas might include:
• inventory of existing facilities
• location of existing facilities
• interviews with older people (could be with a number of different people)
• survey of use of existing facilities
• photographs of facilities
• secondary data eg age related census data, land use maps showing facilities
• online reviews of facilities

As part of a geographical enquiry, students carried out an environmental quality survey in one part of a town centre. The results are shown in **Figure 8**.

Figure 8

	−2	−1	0	+1	+2	
Lots of traffic pollution				✓		No traffic pollution
Lots of litter	✓					No litter
Unattractive buildings				✓		Attractive buildings
Lots of vandalism		✓				No vandalism
No landscaping					✓	Good landscaping

0 4 . 6 Suggest **one** advantage and **one** disadvantage of using the technique shown in **Figure 8** to measure environmental quality. [2 marks]

04 6 **Suggest one advantage and one disadvantage of using the technique shown in Figure 8 to measure environmental quality.**

Accept any reasonable points, which might include:

Advantage (1 mark)
• Easy to read/understand
• Quick to complete so a lot of data can be gathered
• Does not require any complicated equipment
• Could be given out and collected later
• Quite easy to calculate and make comparisons
• Do not need any particular skills to carry out the data collection
• The features that make up the survey could be changed to suit the area and aim(s) of the enquiry.
• Shows strength of opinion
• Considers a range of factors
• Turns subjective ideas into numerical data

Disadvantage (1 mark)
• Not totally clear what the categories mean
• Very subjective and based on opinions rather than facts
• Some people may not understand the language and simply say anything
• Levels of accuracy – if people are unsure they will tend to give a middle answer
• Comparability (especially if completed by different people)
• The range of possibilities is narrow so major differences may not show
• Requires mathematical skills to calculate/opportunity for mathematical error
• Lacks specificity in relation to the values
• Can end up with a narrow range of outcomes