Therapy pack

Edexcel A GCSE Geography

Paper 3

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Fieldwork

This paper makes up 25% of your total exam grade.

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| AO1 | Demonstrate knowledge of locations, places, processes, environments and different scales. | 1.6% |
| AO2 | Demonstrate geographical understanding of  Concepts and how and they are used in relation to places, environments and processes  The inter-relationships between places, environments and processes | 2.4% |
| AO3 | Apply knowledge and understanding to interpret, analyse and evaluate geographical information and issues to make judgements | 12.4% |
| AO4 | Select, adapt and use a variety of skills and techniques to investigate questions and issues and communicate findings | 8.4% |

In paper 3 you will find

* Physical environment investigations (**rivers** or coasts)– 18 marks
* Physical environment investigations (**urban** or rural)– 18 marks
* UK challenges – 28 marks

\*bold indicates the fieldwork section you will answer.

This therapy pack just focuses on the fieldwork element.

**Working with data**

You need to know about the ways to process and present fieldwork data, analyse fieldwork data and make conclusions and summaries, backed up with evidence from fieldwork data. In your exam you will be asked questions about how presentation of fieldwork data could be improved. It is unlikely that there will be mistakes in the presentation of the data. Instead, you should think about the advantages and disadvantages of different types of data presentation.

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| Data presentation | Disadvantages |
| Scatter graphs | Only show the relationships between two variables, so inappropriate for more than 2. |
| Pie charts | Lots of small segments make the chart difficult to interpret |
| Choropleth maps | Hide variations within areas, given impression of boundaries between areas instead of gradual transitions |
| Triangular graphs | Data must be in percentages  Can be difficult to interpret |
| Bar graphs | Do not show relationships between categories |
| Cross sectional diagrams | Only show a snapshot of a river at a specific time |

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| A student used a cross section graph to compare the river profiles of two sites.  Explain one weakness of using a line graph to present this data. (2) |
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**Analysing data**

Here some key steps to analyse data.

1. Describe what you see

What is the overall pattern (increase, decrease, fluctuation)

Are there any anomalies or exemptions?

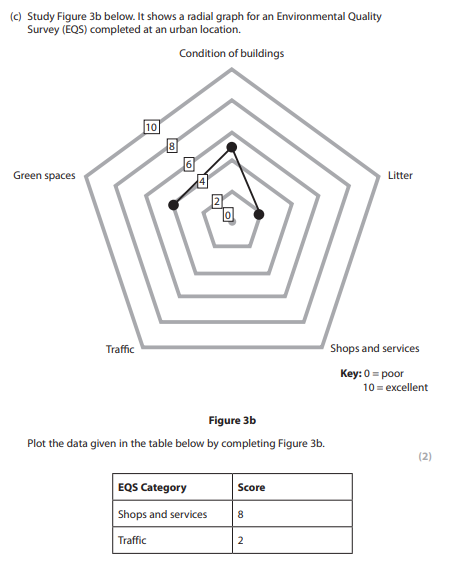
1. Use evidence

Precise figures from the data

1. Give reasons for the pattern
2. Link these reasons to geographical concepts/theories/models you have described.

Identify, by writing numbers in the margin, where the student has got the marks.

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|  | The river is deeper at the right hand side of the river. The depth is 0.25 5m across the river, this could be because the river is bending (a meander) and this is the outside of the bend. This could also be in the middle course of the river, where the velocity is higher (according to the Bradshaw Model) |



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| First plot the data |
| Then analyse the data. (4) |
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**Conclusions**

In your conclusion, you should go back to your key question or hypothesis, and use evidence from your investigation to answer it.

In your exam you may be asked to reflect on aspects of your investigation, you will need to either assess or evaluate

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| Assess- you need to think about all the factors and identify which is the most important |
| Evaluate- you need to weigh up the value or success of something and come to a conclusion |

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**Formulating enquiry questions.**

An enquiry question should relate to a geographical theory and/or example. A key question or hypothesis follows on from the enquiry to be tested. For example:

• How do river channel characteristics change along the River Glaven?

A key question that follows on from this could be:

• Does the depth and width of the River Glaven increase from source to mouth?

A hypothesis could be:

• The depth and width of the River Glaven increase from source to mouth.

*We visited the Porter Brook.*

Complete the table below:

|  |  |
| --- | --- |
| Enquiry question |  |
| Key question |  |
| Hypothesis |  |

**Urban area:**

An enquiry question should relate to a geographical theory and/or example.

A key question or hypothesis follows on from the enquiry to be tested. For example:

• How does the quality of the urban environment vary along a transect through the south-west of Norwich?

A key question that follows on from this could be:

• Does environmental quality improve with increasing distance from the CBD?

A hypothesis could be:

• Environmental quality improves with distance from the CBD.

*We visited Sheffield CBD*

Complete the table below for your fieldwork:

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| --- | --- |
| Enquiry question |  |
| Key question |  |
| Hypothesis |  |

**Data collection**

Collecting your data included using a variety of qualitative and quantitative techniques

Qualitative techniques are ways to collect data to answer you enquiry question that relates to the opinions/perceptions of the researcher or the research sample

Quantitative techniques are ways to collect data to answer that generate a numerical answer.

These were:

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|  | Qualitative | Quantitative |
| River | Field sketch  Roundness scale | Rock size  Cross section – width and depth  Velocity  Gradient |
| Urban | Field sketch  Environmental **qual**ity survey  Open ended questionnaire | Pedestrian count  Land use survey  Survey on questionaire |

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| Investigating physical environments:  State one qualitative method used (1) |
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| Investigating human environments  State one qualitative fieldwork method used (1) |
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| Compare qualitative and quantitative methods (2) |
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|  | Qualitative fieldwork methods/technique |
| Name of method | Field sketch |
| Advantages | Field sketch – allows us to see how the river changes as you move downstream and how different factors affect the flood risk. |
| Disadvantages | Field sketch was bias – we selected what we wanted to include (key features) but may have left out other important factors. |

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| Investigating physical environments  Model answer  Point, so, so (use of figure)  Explain one advantage of the fieldwork methods shown (2) | |
| Identified the fieldwork method  ‘useful’ used as a synonym for good/advantage  Link to how it helps to answer the question.  Links to the figure  Uses the term ‘so’ to link back to the question | The figure shows a **field sketch**. This is a **useful** way of displaying the environment with the researcher identifying key features that help to answer the question. This field sketch helps to answer the question ‘**how does the river change as you move downstream**’ because it shows the different features of erosion (such as a river cliff) **so** demonstrates the changes **so** this is an advantage. |

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| Use the model answer to answer this question.  Investigating physical environments  Explain one disadvantage of the fieldwork method shown in the figure (2) |
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|  | Quantitative fieldwork methods/techniques |
| Name of method | Rock size  Velocity  Width  Depth  Gradient of the valley |
| Advantages | **Rock size-** used caliper for accurate measurements, sample was random to reduce bias  Velocity – stratified sample used to take velocity from the left, middle and right hand side of the river where erosion rates vary, the same distance for the float to travel (5m) was used at each site)  **Width** – we used the same measuring tape at each site and the same frequency (cm).  **Depth** – used the same measuring stick at each site and the same frequency (cm) we were careful to make sure that our measures were accurate (tape measure pulled tight from bank to bank)  **Gradient** – clinometer used for accurate measurements. of the valley side (helped us to identify a cause of high flood risk) |
| Disadvantages | **Rock size** - the sample was random so could be biased  **Velocity** – dropping the float and starting the timer was lagged, resulting in accurate measurements, the float sometimes had to be moved along if it got stuck by debris in the stream. This can sometimes be measured more accurately by using an anemometer, which is put in the water and tracks the velocity (a turbine spins)  **Width/depth** - it was difficult to see where the bank started and ended.  **Gradient** – the valley side was steep in site 1 so we couldn't do a full valley measrement (inaccurate/unreliable) |

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| Suggest one alternative to the method used in figure 1. (3)  Point (what’s in the figure), give your alternative (1), explain why it’s more accurate/reliable (1) |
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| **Paper 3 – Section A – Investigating Physical Landscapes- Rivers** | | | | |
| Enquiry question:  1) **How does the River Porter change as you move downstream?**  **2) What factors increase the flood risk around the Porter Brook?** | | | **Risks considered:** slip, trips, falls, heavy rainfall, deep water, catching diseases/infection from the water. | |
|  | Qualitative fieldwork methods/technique | Quantitative fieldwork methods/techniques | | Secondary data sources |
| Name of method | Field sketch  Rock roundness (using the powers roundness index) | Rock size  Velocity  Width  Depth  Gradient of the valley | | Flood risk map  Geology survey |
| Advantages | Field sketch – allows us to see how the river changes as you move downstream and how different factors affect the flood risk. | Rock size- used caliper for accurate measurements, sample was random to reduce bias  Velocity – stratified sample used to take velocity from the left, middle and right hand side of the river where erosion rates vary, the same distance for the float to travel (5m) was used at each site)  Width – we used the same measuring tape at each site and the same frequency (cm).  Depth – used the same measuring stick at each site and the same frequency (cm) we were careful to make sure that our measures were accurate (tape measure pulled tight from bank to bank)  Gradient – clinometer used for accurate measurements. of the valley side (helped us to identify a cause of high flood risk) | | Flood risk map showed which area may be affected by flooding the most allowing us to answer question (2)  Geology survey showed impermeable rock near the source (site 1) and permeable rock in site 2 showing factors that may influence flood risk (to answer question 2) and erosion rate (to answer question 1) |
| Disadvantages | Field sketch was bias – we selected what we wanted to include. | Rock size - the sample was random so could be biased  Velocity – dropping the float and starting the timer was lagged, resulting in accurate measurements, the float sometimes had to be moved along if it got stuck by debris in the stream  Width/depth - it was difficult to see the where the bank started and ended.  Gradient – the valley side was steep in site 1 so we couldn't do a full valley measrement (inaccurate/unreliable) | | Flood risk map is a snapshot in time and doesn't give a full picture of the factors influencing the flood risk in the same way that a field sketch would. |
| How the data was presented  /presentation technique used | Field sketch was presented as an annotated fieldsketch  Roundness was presented as a bar chart/stacked bar chart (to show clear variations) | Rock size – bar chart  Velocity - bar chart  Width and depth – line graph (complex as depth measurements have to be converted into minus figures)  Gradient – bar chart | | Geology map- GIS  Flood risk map -GIS |
| **Key terms**  Reliable (if you repeated the study at a different time/day would you get the same or different result?) accurate (how well did you use the equipment), quantitative (data that generates numbers - generally less biased), qualitative (data that is generated by people's own experiences/opinions/perceptions), presentation (how you displayed your data), method (what you did to collect your data), technique (the way you might display data or collect it) | | | | |

1. State your enquiry question
2. State one sampling method used
3. State one technique used to collect data
4. State one technique used to present data
5. State one secondary data source
6. State one qualitative technique used to collect data
7. State one quantitative technique used to collect data
8. Explain how secondary data helped to support your investigation
9. Explain one disadvantage of a technique used to gather data
10. Explain one method used to collect data
11. explain how the data you collected supported your investigation questions
12. Explain one advantage of a presentation technique you used
13. Explain one disadvantage of a presentation technique you used
14. Explain one reason why your data was accurate
15. Explain one reason why your data was reliable
16. Explain one disadvantage of using qualitative data to support your study
17. Explain one advantage of using quantitative data to support your study.

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| **Paper 3 – Section B – Changing city environments – investigating change in central/inner urban area** | | | | |
| Enquiry question:  1) **How far has Sheffield's CBD and Kelham Island been regenerated?** | | | **Risks considered:** slip, trips, falls, heavy rainfall, stranger danger, terrorism threat, being lost from the group. | |
|  | Qualitative fieldwork methods/technique | Quantitative fieldwork methods/techniques | | Secondary data sources |
| Name of method | Environmental quality survey – systematic sample  Open answer question 'what 3 words come to mind when you think of this place'- stratified sample | Land use survey – systematic sample  Pedestrian count - random sample  Questionnaire – closed questions – stratified sample | | Census data (population)  Sheffield regeneration plan |
| Advantages | Environmental quality survey – the same criteria were used in different sites (accurate) we took more than one survey in Kelham Island the CBD to ensure reliability.  Open answer question – allowed us to get a better picture of what visitors and residents think the successes/failures of regeneration has been in 3 words | Land use survey – it shows how the land is used, we would expect a regenerated place to have more tertiary land use (shops, schools, hospitals) and less industrial (secondary sector) land use this showed us which areas had been successfully regenerated – allowing us to answer our question.  Pedestrian count – it showed areas of high footfall (and therefore more successful regeneration) and those with low footfall (and therefore less successful regeneration)  Questionnaire– it allowed us to use a stratified sample to find out what people from different ages within the population thought about regeneration. Asking whether they were there for work or to visit also showed whether or not regeneration had been successful as it shows that there is employment and services for leisure. | | Census data allowed us to create a stratified sample in which to ask questions to 1 person below the age of 17, 8 people between the ages 18-64 and 1 person above the age 65 as this is the population age distribution  Sheffield regeneration plan allowed us to complete fieldwork in areas we know had had funding for regeneration |
| Disadvantages | Environmental quality survey – relied on the opinions of people. | Land use survey. - it wasn't always clear what the buildings were being used for. it was also difficult to know how far to look for your tally.  Pedestrian count – time of the day mattered as there were busier and less busier periods in the city centre. random location may have resulted in inaccurate/bias results. | | Census data isn't always accurate  Regeneration plan doesn't always give updated information on its successes/failures. |
| How the data was presented  /presentation technique used | Environmental quality survey – radial graph (clear to see)  Open answer question – word cloud (some offensive words needed to be removed –disadvantage as not reliable) | Land use survey – stacked bar chart (easy to see the land use and compare between sites)  Pedestrian count – bar chart (easy/clear to see and compare)  Questionnaire – bar chart (easy/clear to see and compare) | | Census data – population pyramid  Regeneration plan – GIS. |
| **Key terms**  Reliable (if you repeated the study at a different time/day would you get the same or different result?) accurate (how well did you use the equipment), quantitative (data that generates numbers - generally less biased), qualitative (data that is generated by people's own experiences/opinions/perceptions), presentation (how you displayed your data), method (what you did to collect your data), technique (the way you might display data or collect it) | | | | |

1. State your enquiry question
2. State one sampling method used
3. State one technique used to collect data
4. State one technique used to present data
5. State one secondary data source
6. State one qualitative technique used to collect data
7. State one quantitative technique used to collect data
8. Explain how secondary data helped to support your investigation
9. Explain one disadvantage of a technique used to gather data
10. Explain one method used to collect data
11. explain how the data you collected supported your investigation questions
12. Explain one advantage of a presentation technique you used
13. Explain one disadvantage of a presentation technique you used
14. Explain one reason why your data was accurate
15. Explain one reason why your data was reliable
16. Explain one disadvantage of using qualitative data to support your study
17. Explain one advantage of using quantitative data to support your study.