GCSE GEOGRAPHY PHYSICAL FIELDWORK

FIELDWORK ENQUIRY QUESTION:
Does the river at Ash brook match the Bradshaw model?
How does the cross profile of Ash brook change over distance.
Why is this location suitable for our physical fieldwork enquiry?
It is a suitable location because it offers a small river within walking distance of all 3 course of the river. This allows us to make an accurate comparison to assess if the river does match the Bradshaw model

Data Collection Method 1: Bedload sampling

Sampling Method: random Sample Size: 10 sites

Description of method:	Justification:
We took a random sample of rocks from the river and measured there longest axis and used a scale to test the angularity.	By measuring the bedload it allowed us to investigate if the size and shape of the rock matched the Bradshaw model in terms if stone size and angularity
Strengths: safe method, easy to complete, could be tested at all sites.	Weaknesses: not a systematic approach to sampling , people could have moved stones from other parts of the river e.g. stones from the upper course may be carried down to the lower course.

RISKS:
Describe the risks you experienced on your fieldwork trip and how these could be reduced

1 – Weather: where suitable clothing and footwear

2 – Animals: don't get to close to any animal and don't feed them

3 – Equipment: when using equipment use it in the correct manner e.g Ranging poles need to be kept facing down to prevent sharp point catching anyone.

4 – When finished in the water wash hands before eating to prevent the spread of Weil's disease which comes from animal urine.

Data Collection Method 2: channel cross section

Sampling Method: systematic Sample Size: 10 sites

Description of method:	Justification:
We measure the channel cross section by measuring the width of the stream from bank to bank and then took a measurement of the depth of the river every 25cm between the banks. We used a tape measure and a metre rule for this.	we did this method to work out if the river met the Bradshaw model in terms of cross sectional area.
Strengths: systematic sampling, easy to do , same measurement taken every 25cm at each site.	Weaknesses: Measurement could be unreliable as you may not measured from the bottom of the river due to rocks, possibility for inaccurate measurements.

DATA PRESENTATION METHODS

Method 1:Dispersion graph : possible other methods line graph

Strengths:	Weaknesses:
Shows the spread from the mean. Gives an indication of the reliability of the data. Can work out mean, range, mode, median, lower quartile, upper quartile and interquartile range. Can compare graphs easily using averages for analysis. Anomalies can be shown..	Hard to understand, can't add trend lines(line of best fit) Time consuming

Method 2: Line Graph Possible other methods Bar chart

Strengths:	Weaknesses:
Comparisons can easily be made with other similar graphs or more than one line/chart can be plotted on one graph. Anomalies are quite clear. Give visual image- shows the general trend/correlation (giving basis for stats test to analyse.) Can plot standard deviation.	Can be tedious and time-consuming to construct by hand. Can be difficult to read accurately. Can often require additional information for them to be useful.

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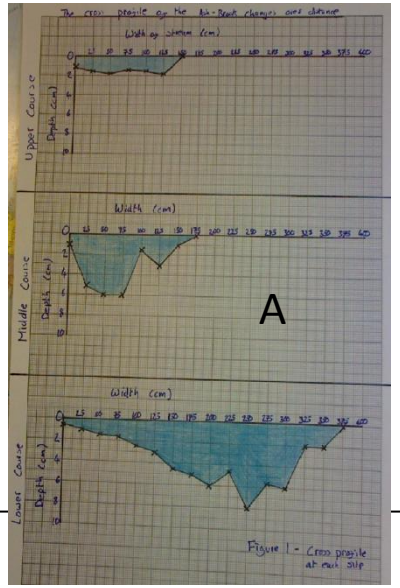
ANALYSIS

Describe each set of data and explain what this tells you – link it back to your enquiry question. What other data maybe useful when assessing your results? Is there anything else we could have collected?
Use PEEL and include data – can you put your numbers into percentages?

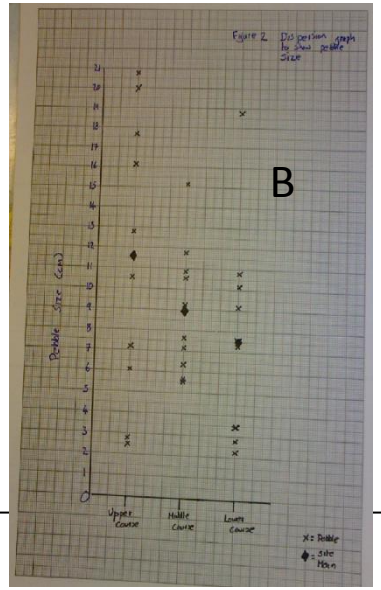
From the cross section line graph I can see that the majority of results show the river is getting deeper the further you travel down stream for example in the number course of the river the maximum depth was 2cm where as in the lower course the river was deeper at a maximum depth of 8 cm. I can also clearly see from my results the river was wider in the lower course . My results clearly match the Bradshaw model as the cross-sectional area does get wider and deeper the further you travel down course. This meet my hypothesis that the cross profile of Ash Brooke does change over distance. However to fully confirm my results it would also be useful to measure the flow and the angularity of the bedload as by doing so would give me a more concise view on how the cross profile at Ash Brooke had changed over time.

<u>You would need to add in an analysis for B the dispersion graph on rock size.</u>

A cross profile line graph



A dispersion graph



CONCLUSION

Answer your enquiry question! What do you think? Use the evidence you've collected to back up your conclusion
Overall from both sets of results I have collected I can see that the cross profile does change over distance in terms of bedload and depth. For example I can see the maximum depth of the river has a range of 6cm. In addition within the rock size I can see that on average (mean) the largest rock sixe is found in the upper course and the smallest in the lower course. At 12 upper course , 9 middle course , 7.5 cm lower course. So this shows my results match my hypothesis. Overall I think the cross profile of ash brook does change over distance and does match the Bradshaw mode

EVALUATION

What problems did you experience during your fieldwork? How would this affect your investigation?
What would you do differently next time? How would this improve your investigation

My investigations did have some limitations for example the equipment we used to measure both the width and depth of the river was not completely accurate due to the fact we were using simple tape measures and metre rules this allowed for human error. This may have effected my results as there were a few anomalies in the cross profile of ash brook . For example in the middle course there was a sudden reduction in depth. This error could be reduced by double checking the results or measuring in the same place a few times and produce an average to reduce anomalies. In addition to this the time of the year we went may have effected our results as the river was at one of its lowest levels where in the autumn there would be more rainfall which could effect the results both in term of bedload sixe and the channel cross section. If I was to visit the site again I would look to get two groups to measure the same site and produce averages for the site to reduce anomalies. This would improve the accuracy of my results leading to a more substantiated conclusion to my investigation