

Getting outside! Investigating the school environment

Kelly introduces her year 7 students to their new school environment with a valuable fieldwork experience in the school and its grounds.



Accompanying online materials

Fieldwork is a fundamental aspect of a geographical education. Since 2014 the presence of fieldwork in both the national curriculum and examination specifications has grown ever more prominent, emphasizing the contribution fieldwork can make in involving 'students in the act of observing and asking questions of, and in, the real world' (Kinder, 2018, p. 110). I believe there is no better way than fieldwork to spark a student's geographical curiosity – it's one of the main reasons I fell in love with the subject!

The sequence of lessons described here is part of our introductory scheme of work 'What is geography?' and is designed to introduce our year 7 cohort to the school, familiarise them with their environment and develop their spatial awareness. The lesson sequence requires students to 'collect, analyse and communicate a range of data gathered through experiences of fieldwork that deepen their understanding of geographical processes' (DfE, 2013). My aim is to engage our new geographers right from the start by harnessing their curiosity about their surroundings. Based in the school and school grounds, the lessons offer a worthwhile fieldwork experience without the financial and administrative pressures of organising an off-site educational visit. The sequence of six lessons follows the stages of the fieldwork enquiry outlined in Figure 1.

Introducing the enquiry

I begin the first lesson by introducing the students to the six stages outlined in Figure 1, followed by a card sort activity (Figure 2 – a larger version is available to download) to establish prior knowledge. The cards show the stages of a geographical enquiry – introduction, aims, location, risk assessment, data collection, data presentation, analysis, conclusion and evaluation – and I ask students to put the cards into the order they think a geographical fieldwork enquiry should follow. This is a great way to get students thinking about what is entailed in each stage of a fieldwork enquiry. Throughout this activity I encourage peer discussion, to develop students' literacy and group work skills and let them explore themselves whether the enquiry sequence is appropriate.

To set the scene for the fieldwork enquiry, I introduce the enquiry question 'Does the environment of our school vary?' – a fertile question, requiring students to consider what information they need to collect in order to prove or disprove it – and a brief discussion follows. The lesson concludes with groups of students considering the various risks (i.e. slips and trips) geographers need to be aware of when planning fieldwork and how they can be reduced or avoided (i.e. be careful and pay attention to where you are walking).

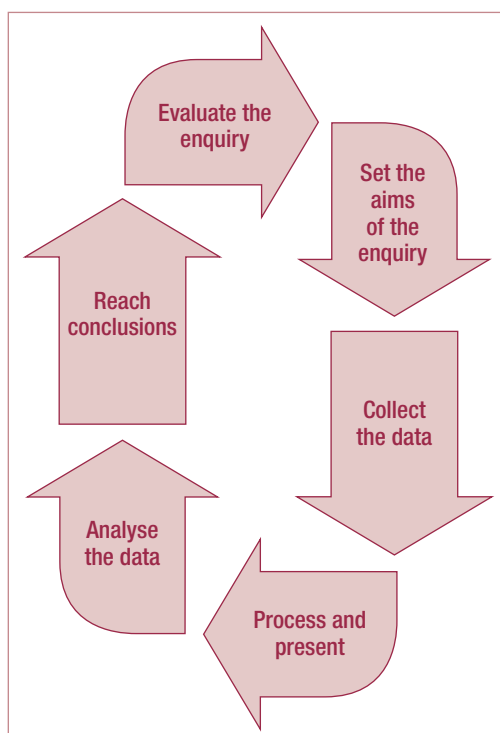


Figure 1: The six stages of the fieldwork enquiry process, adapted from Owen (2018).

Analysis
Geographers examine their results to understand and suggest reasons for relationships.
Conclusion
Geographers always need to reach a judgement or decision backed up by their results.
Data collection
Geographers collect information during a fieldtrip.
Data presentation
Geographers use the data collected at this point to create graphs and charts.
Evaluation
At the end of the investigation, geographers make judgements about the accuracy of their results and problems they had during their fieldwork.
Hypothesis
Before completing fieldwork, geographers make a prediction of what they believe the data will show.
Introduction
Geographers must always explain what they will be investigating.
Location
Geographers must choose their fieldwork location carefully. They do this by identifying the advantages and disadvantages of different places.
Risk assessment
Geographers need to identify potential risks of fieldwork that could cause harm to someone, and come up with a solution to manage that risk.

Figure 2: Fieldwork card sort activity.

Data collection

The second lesson begins with an introduction to the concept of a bipolar survey, or environmental quality analysis. I give students a template (available to download) to be completed during their data collection. They are to complete it independently, selecting opposite factors associated with a scale score, i.e. +2 to -2. To ensure the factors are appropriate, students are asked to suggest pairs of opposites (i.e. no litter/litter, not smelly/smelly) on which to score the locations they plan to visit. These locations could be chosen for them, for the whole class to use, or offered as examples, allowing more able students the freedom to select their own.

For the main activity students visit their chosen locations within the school grounds, completing their bipolar survey along the way (Figure 3).

You could allow your class to visit their sites in small groups, telling them how long they have to collect their data before returning to class. The likelihood of a student getting lost or encountering other risks is small – another advantage of conducting fieldwork in the school grounds. Alternatively, to manage behaviour and ensure that the activity is inclusive of all students, you could conduct the enquiry as a class.

There is a high level of student engagement in the data collection. Many students take it very seriously, pointing out every little detail, whether positive (e.g. no graffiti) or negative (e.g. noisy). I often hear students comparing their current location to the last, suggesting reasons for their results or sharing their surprise when the results in a particular location were not what they expected.

Data presentation

In the next lesson I ask students how they could present the data collected; common responses include bar chart, line graph, etc. A brief discussion of the advantages and disadvantages of each ensues and then I introduce them to a radial graph, a more complex data presentation method which many are not familiar with. A number of students struggle, at first, to grasp the plotting of each data point onto their radial graph. However, with careful modelling, using a visualiser or completed example (available to download) and the use of a template, they are soon at ease with this method of presentation (Figure 4).

Analysis

Owen (2018, p. 42) defines analysis as 'selecting evidence that reveals connections, patterns or trends'. Typically, year 7 students have a limited understanding of how to analyse the data they have collected. To ensure they know how to complete this stage of the enquiry correctly I give them a structure strip (Figure 5) to scaffold their written analysis, describing patterns and suggesting reasons for their results.

At the end of the sequence of lessons, I assess student understanding using a range of question types requiring various levels of response, awarding higher marks to answers which meet criteria set out by command words such as 'describe' or 'explain'.

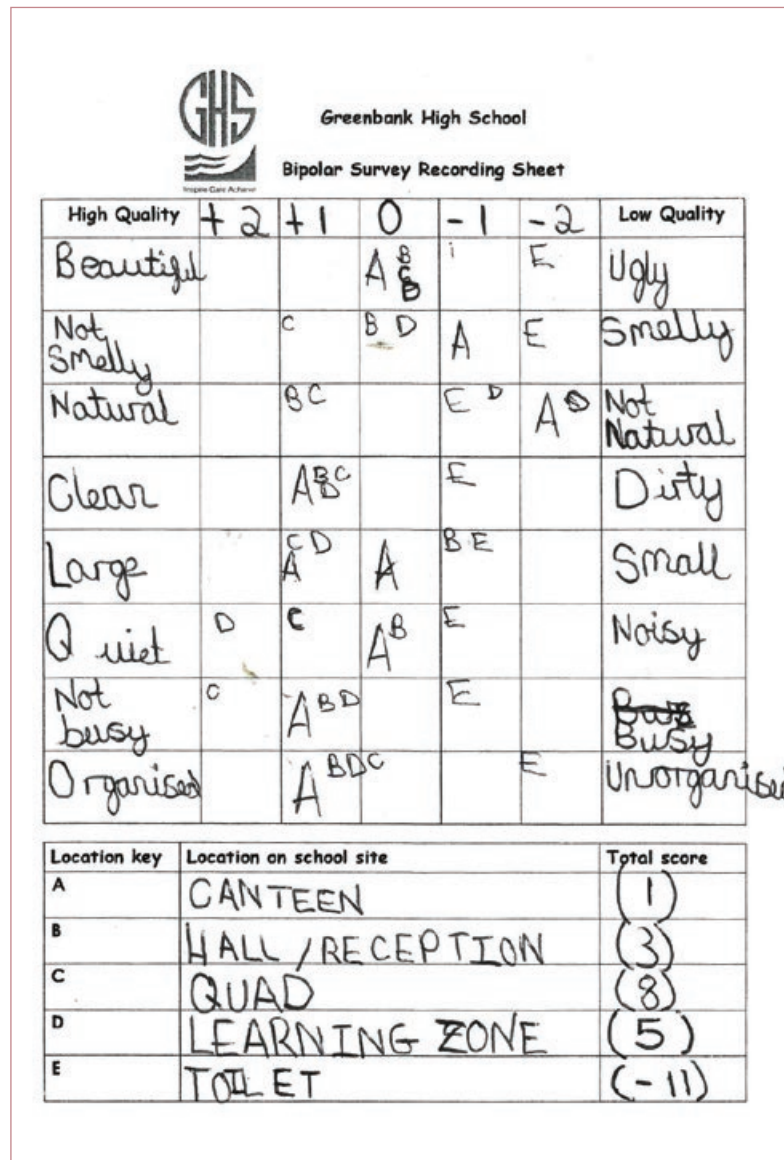


Figure 3: Example of a student's completed bipolar survey.

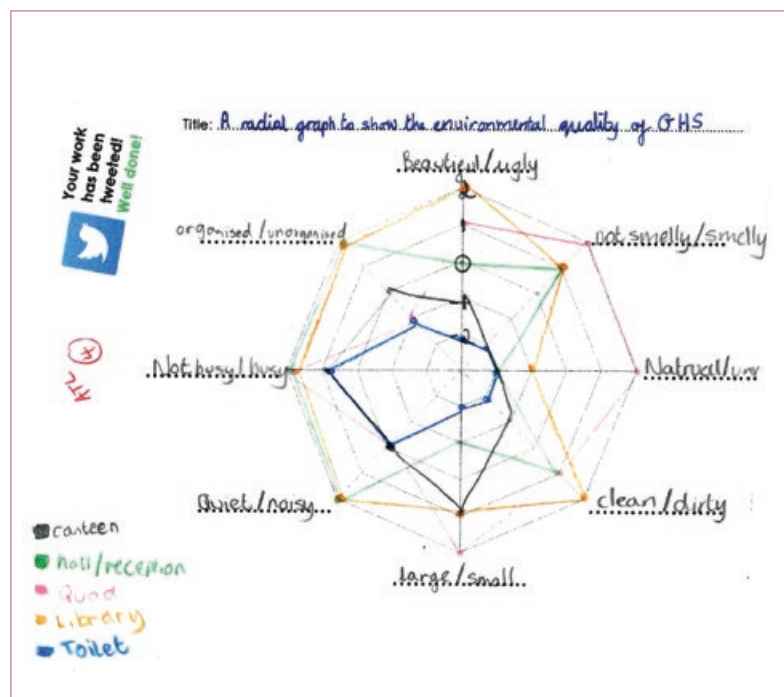


Figure 4: Student example of a completed radial graph.

Introduction	What did you investigate? I have been investigating ...
Paragraph 1: Best environment	Which location had the best environment? My results show that the area(s) with the best environment is (are) ... How do you know this? Suggest a reason. This is because ...
Paragraph 2: Worst environment	Which location had the worst environment? My results show that the area(s) with the worst environment is (are) ... How do you know this? Suggest a reason. This is because ...
Paragraph 3: Improvements	How could the worst environment be improved? I think we could improve the worst environment by ... Why do you think this will help? I believe this will help because ...
Conclusion: Summarise your results	Does the school environment vary? Overall, the school environment ...

Figure 5: Analysis structure strip.

Lesson evaluation and future considerations

After teaching this series of lessons for a few years, I have made some modifications. Initially, I provided the bipolar template and opposite factors (i.e. attractive/ugly), but this limited student curiosity and independence. Students now select their own opposite factors; this has increased their engagement with the data collection and personalised the enquiry.

Originally students used simple data presentation methods, such as bar graphs. However, after conducting a key stage 3 curriculum skills audit, I decided to embed a number of graphical skills referenced in various GCSE specifications. My aim was to increase the level of challenge and expose students to a broader range of graphical techniques, thus laying the foundations for students who would continue studying geography at key stage 4.

In future, when the students have completed their analysis, I would like to suggest that they include a summary of their findings and

suggestions for improvements in a letter addressed to our Headteacher. This would add validity to their fieldwork, and their findings could be incorporated into school improvement plans, making the school environment better for everyone.

Conclusion

Applied fieldwork enquiries such as this provide valuable, real-world educational experiences beyond the classroom that some students may not have access to outside school. Introducing students to the six stages of a fieldwork enquiry at the start of year 7 gives them a set of skills to build on when completing a sustainability enquiry at the end of the year, as well as the confidence to independently carry out micro-climate investigations in the school grounds in year 8. Whether students continue to study geography at key stage 4 or not, such fieldwork enquiries foster valuable generic skills – asking questions, collating evidence and drawing conclusions – as well as sparking curiosity about our world. | **TG**

Online resources

The resources accompanying this article are available to download. Go to www.geography.org.uk/Journals/Teaching-geography and select Summer 2020.

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