

Thinking Critically about GCSE fieldwork

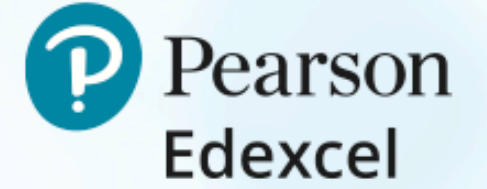
Catherine Owen, GA Consultant



Do now: Warm up your thinking

- How do you prepare your students for the unfamiliar fieldwork questions in the GCSE?
- What fieldwork do you carry out for the familiar fieldwork part of the GCSE?
- Which types of fieldwork exam questions do your students find most tricky? Why do you think this is?

Overview



- **This workshop will enable delegates to:**
 - explore resources to develop critical thinking skills in fieldwork from the GA's critical thinking CPD programme
 - reflect on the fieldwork assessment and the 'unfamiliar fieldwork' questions
 - discover techniques for supporting and developing critical thinking skills with different groups of students.
- **There will also be the opportunity to ask questions and share good practice.**

Feedback from examiners' reports

- **Unfamiliar fieldwork questions**

- Need to prepare.
- Walk through the process of developing a coherent aim and at least one testable hypothesis, to guide the data collection process.
- Look at data sets – general, overarching connections or patterns, then explore variations using outliers and exceptions to illustrate complexity.

- **Familiar fieldwork questions**

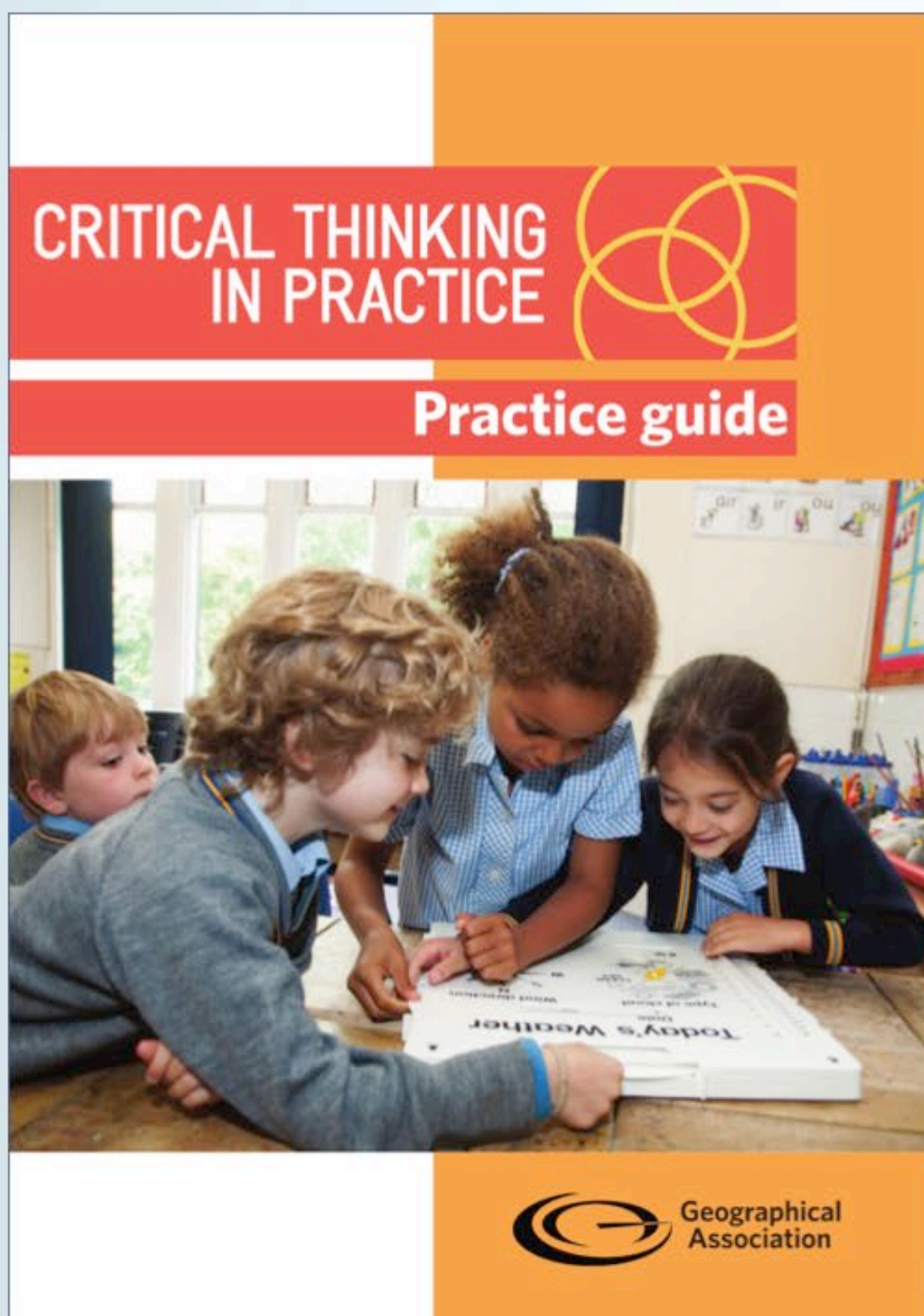
- Need to have good recollection of fieldwork and why it was carried out in a particular way.

Feedback from examiners' reports

- **Both unfamiliar and familiar fieldwork questions**
 - Read question carefully and don't stray into unrelated issues.
 - Check understanding of command words i.e. assess and terminology i.e. secondary data.
 - Check understanding of vocabulary related to fieldwork.
 - Need skills listed in specification i.e. drawing a sketch map or annotating.
 - Must be able to use critical thinking skills to reflect upon the possibility of error i.e. design flaws in a questionnaire.
 - Check understanding of difference between reliability and accuracy i.e. of conclusions.
 - Remember that all questions are assessing AO3 or AO4.

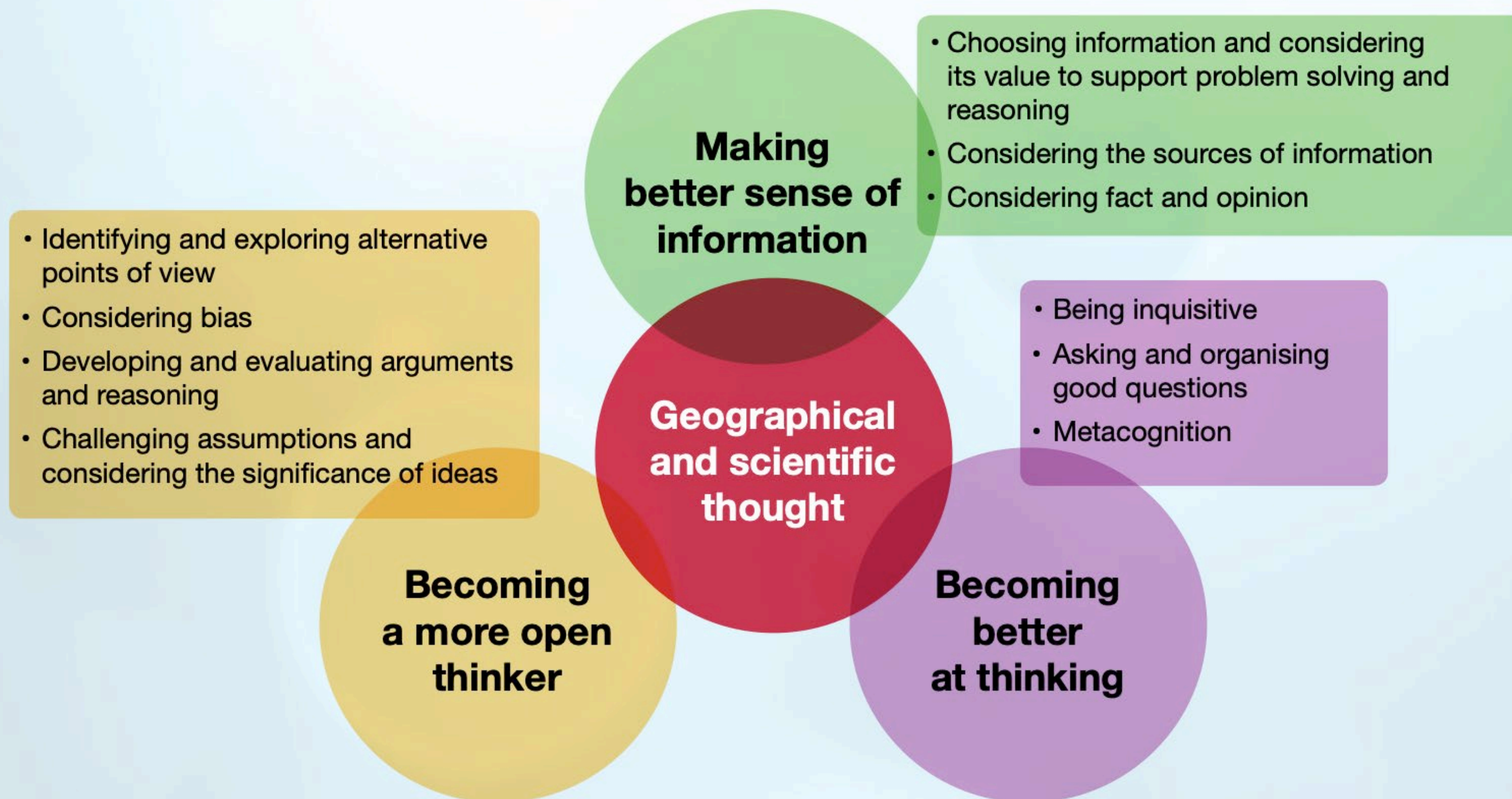
Assessment Objectives

Students must:		% in GCSE
A01	Demonstrate knowledge of locations, places, processes, environments and different scales.	15
A02	Demonstrate geographical understanding of: <ul style="list-style-type: none"> • concepts and how they are used in relation to places, environments and processes; • the inter-relationships between places, environments and processes. 	25
A03	Apply knowledge and understanding to interpret, analyse and evaluate geographical information and issues and to make judgements.	35 (10% applied to fieldwork contexts (s))
A04	Select, adapt and use a variety of skills and techniques to investigate questions and issues and communicate findings.	25 (5% used to respond to fieldwork data and contexts)
Total		100%



The GA provides support for geography teachers wanting to improve their use of critical thinking – see <https://www.geography.org.uk/Critical-thinking-in-geography> for more information.

How can we apply some of these ideas to improve our students' performance when answering fieldwork based questions in exams?



Flat chat

- Show a question on the board, for example (Edexcel A P3 SAM):

(d) Figure 3 shows the results from a student's survey investigating shop types with distance from the CBD in Shrewsbury, a market town in Shropshire.

The aim of the student's investigation was to consider changes in land use in a central urban area/CBD.

The student surveyed land use along six roads out from the CBD and have seven categories of land use, to find out their variation with the town.

My findings

- Retail was the dominant land-use category along the transect.
- Industry was found out of town at sites 5 and 6 only.
- There was more open space as we moved away from the CBD.
- As you move away from Shrewsbury's CBD, the types of land use change but, overall, land use remains varied along the transect.

Study Figure 3 in the Resource Booklet.

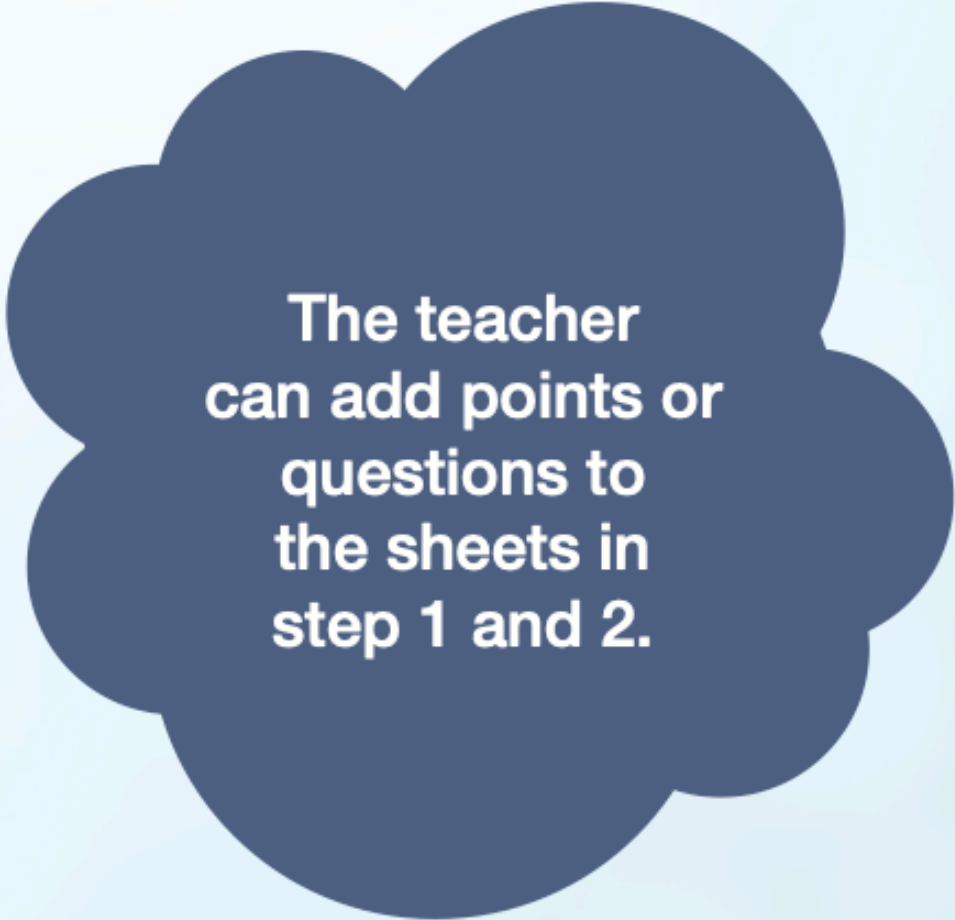
Evaluate the student's methods and findings.

Step 1 (in silence) – put a piece of A3 paper on each table. Students write down anything related to the question on the sheet. You could give students different colour pens so you can see that all are contributing. They should read the contributions made by others in their group, adding to and challenging them.

Step 2 (in silence) – each member of the group should visit the A3 sheet completed by a different group, reading the contributions and adding to/ challenging them.

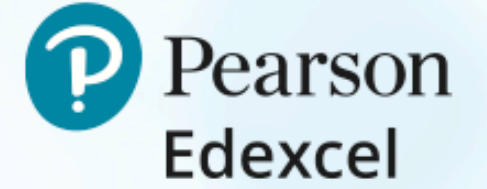
Step 3 (discussion) – groups return to their original sheet to discuss what they have written and what they saw on other group's sheets. What is useful for their answer?

Step 4 (individually in silence) – students can then answer the question in timed conditions



The teacher
can add points or
questions to
the sheets in
step 1 and 2.

Critical thinking in practice – the Geographical Association



Flat chat for essay preparation in Year 13

Jessica Franklin, Milton Keynes Academy

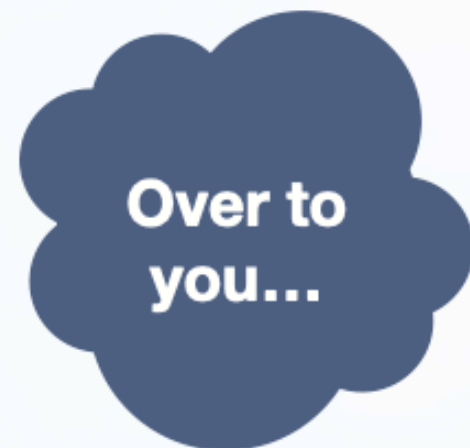
I wanted students of all abilities to work together to improve their knowledge and question the knowledge of one another. The aim was to deepen their understanding and debate the thoughts and opinions of others.

I gave all students (including myself) a large sheet of paper with Mary I in the middle and an exam question to focus their knowledge. We all had a different coloured pen and four minutes to write down as much knowledge that we had within that four minutes surrounding the enquiry. We then swapped sheets and repeated the process adding detail to points and questioning points. This happened six times as there were six students and you could clearly see who had written what due to the colour differentiation. I reduced the time by 30 seconds for each swap. We then discussed our findings and categorised different points into specific arguments for and against the enquiry.

This actually turned into a brilliant essay plan that students used to answer the enquiry. Students said that they formulated points that they wouldn't have considered without the activity and found the visual source very useful in structuring their work. I would consider increasing the time as opposed to reducing it each time to measure whether it makes any other impact.

There was significant engagement from pupils and even the quieter ones debated points as they had written them down, and as everyone knew whose pen belonged to whom they felt a need to defend their argument. There was an improvement in the essay results from weaker students but not much from higher ability, despite them feeling as though they were better prepared. I think this was a brilliant technique which encouraged great historical debate and encouraged deeper thinking with regards to essay structure and approach. The ownership of written points worked well.

Flat chat 1



- Look at the question on the next slide – what comments would you add to a sheet for step 1 of flat chat?
- Share at least one of your ideas with the group.

(d) Figure 3 shows the results from a student's survey investigating shop types with distance from the CBD in Shrewsbury, a market town in Shropshire.

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Evaluate the student's methods and findings.

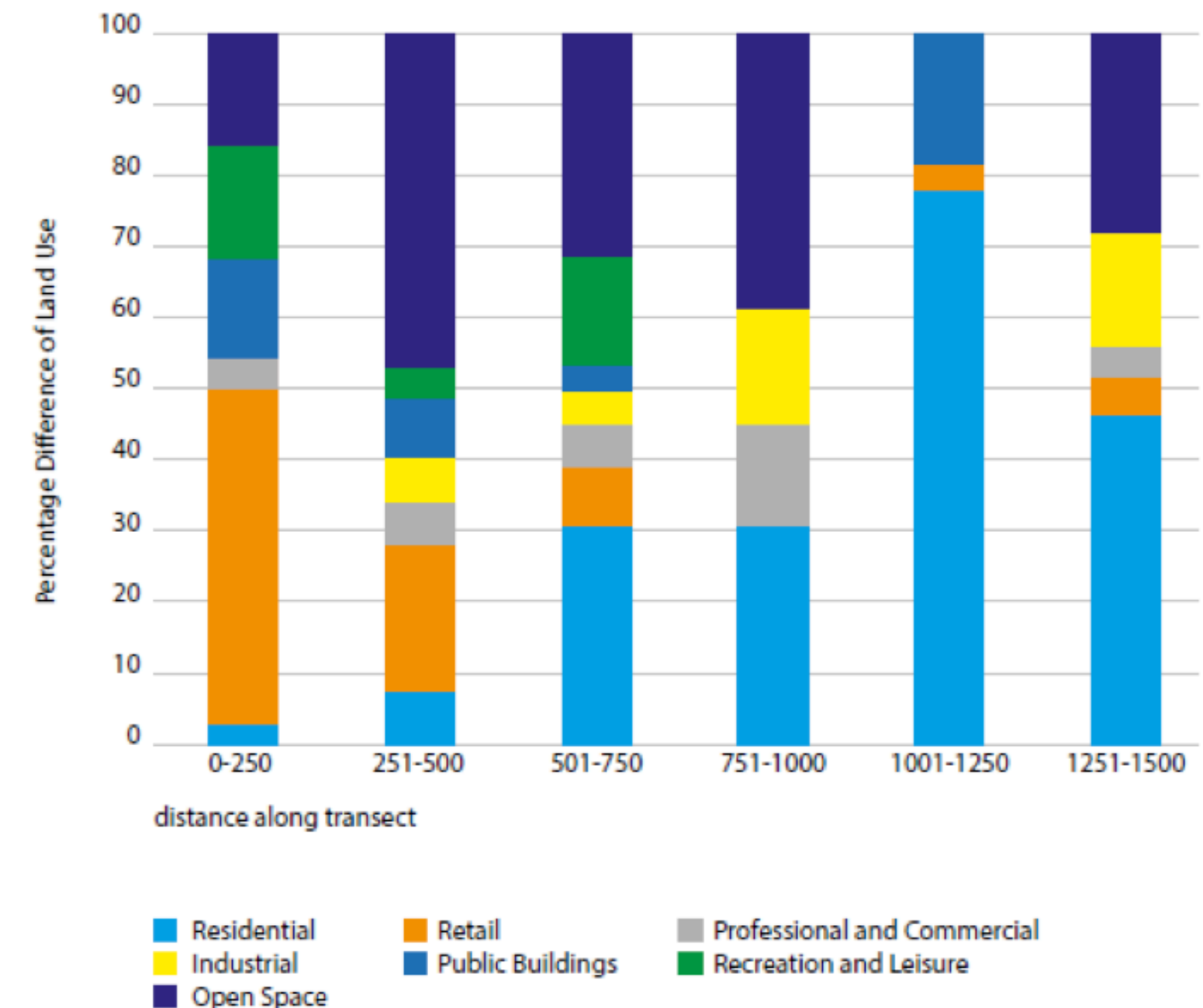
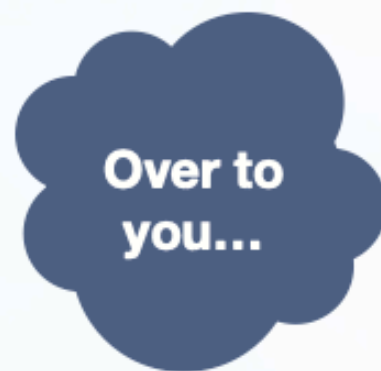


Figure 3

Flat chat 2



- Look at the comments shared with the group.
- How would you add to or challenge these comments for step 2 of flat chat?
- Share at least one of your ideas with the group.

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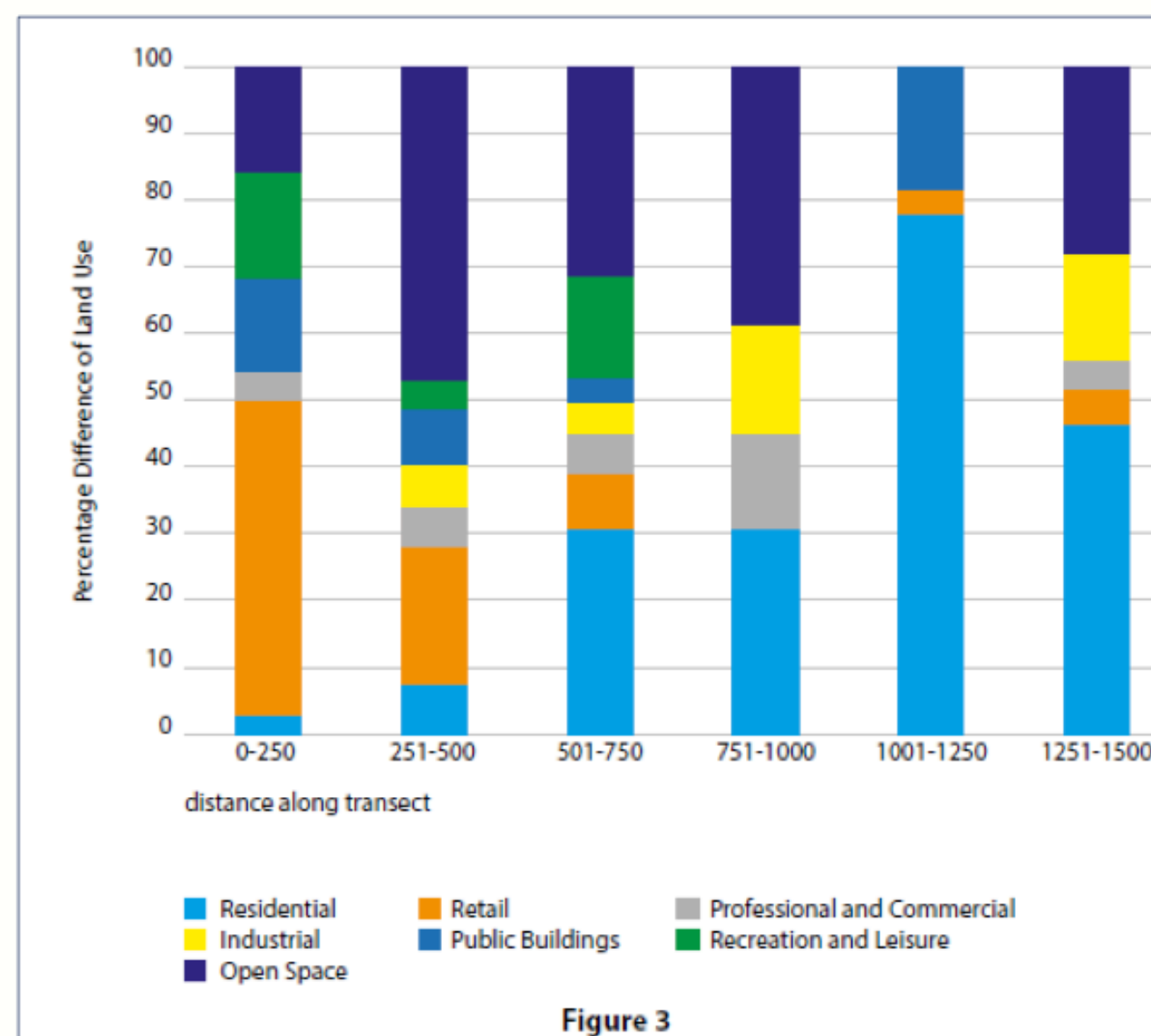
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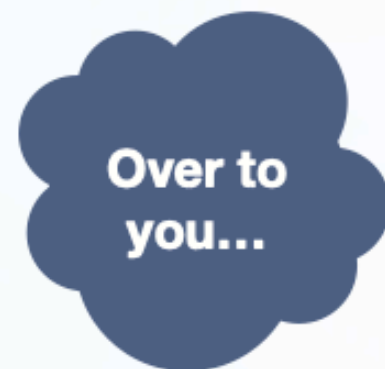
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Flat chat 3



- Look at the comments, additions and challenges shared with the group.
- Which of these would help you answer the question (step 3)?

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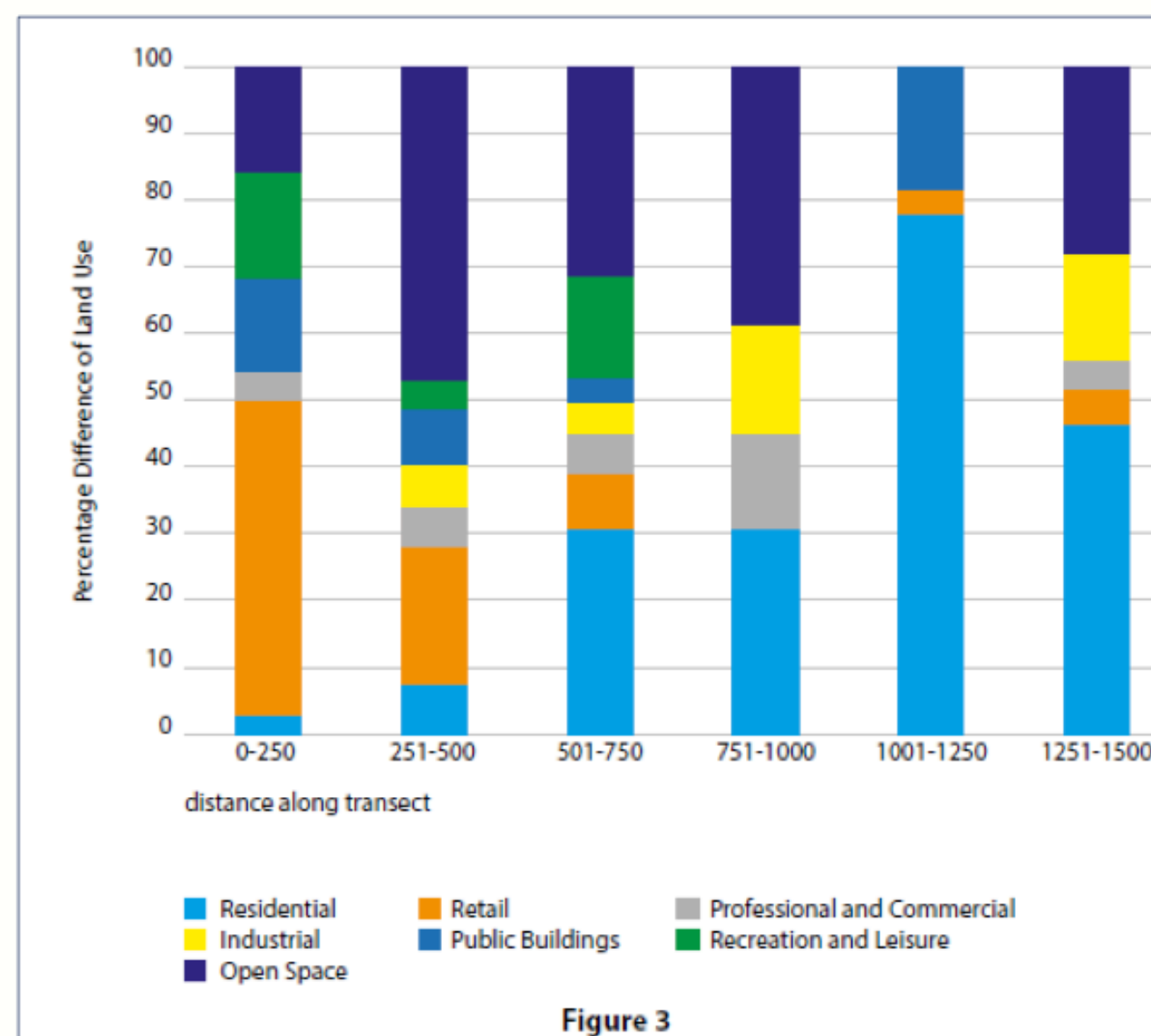
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How did you do? Here's the mark scheme

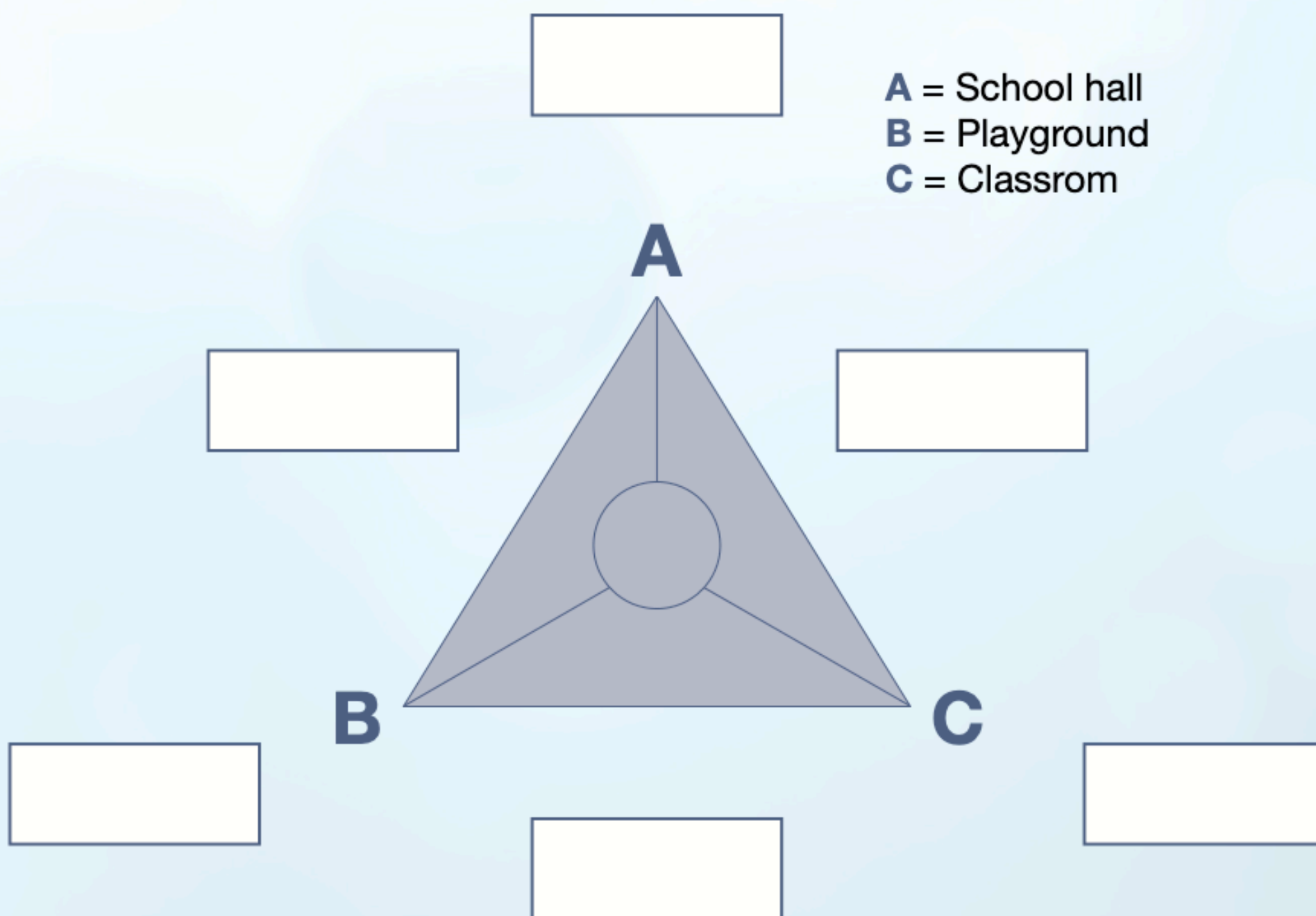
- How do your ideas for the answer compare to the mark scheme?
- Have you 'over thought' this?
- Remember that you don't need to include all of these points to get a good mark.

Question number	Indicative content
3(d)	<p>A03 (4 marks)/A4 (4 marks)</p> <p>A03</p> <ul style="list-style-type: none">• The student presented data within only six broad distance categories along the transect, therefore patterns of variation may be hidden within the 250m interval.• The distribution of the road is unknown and could be clustered in one specific area, producing a degree of bias/not representative of the land use of the whole of the town.• The student has not surveyed between roads and land use along the roads may be different to the land use between the roads.• The student used only seven categories of land use, which meant some land uses may not fit within the categories selected.• The student's results give a generalised pattern of land use but lack fine grain that would be useful if comparing to an urban geography model. <p>A04</p> <ul style="list-style-type: none">• Residential was the dominant land use along the transect.• Industry is found at the four of the six transect distances (251-500, 501-750, 751-1000, 1251-1500).• The amount of open space varies moving away from the CBD at the modal class 251-1500.• With increasing distance away from the CBD, there is a change in land use, although it becomes less varied past the 751-1000m location.

Odd one out triangle

Example: Sampling techniques

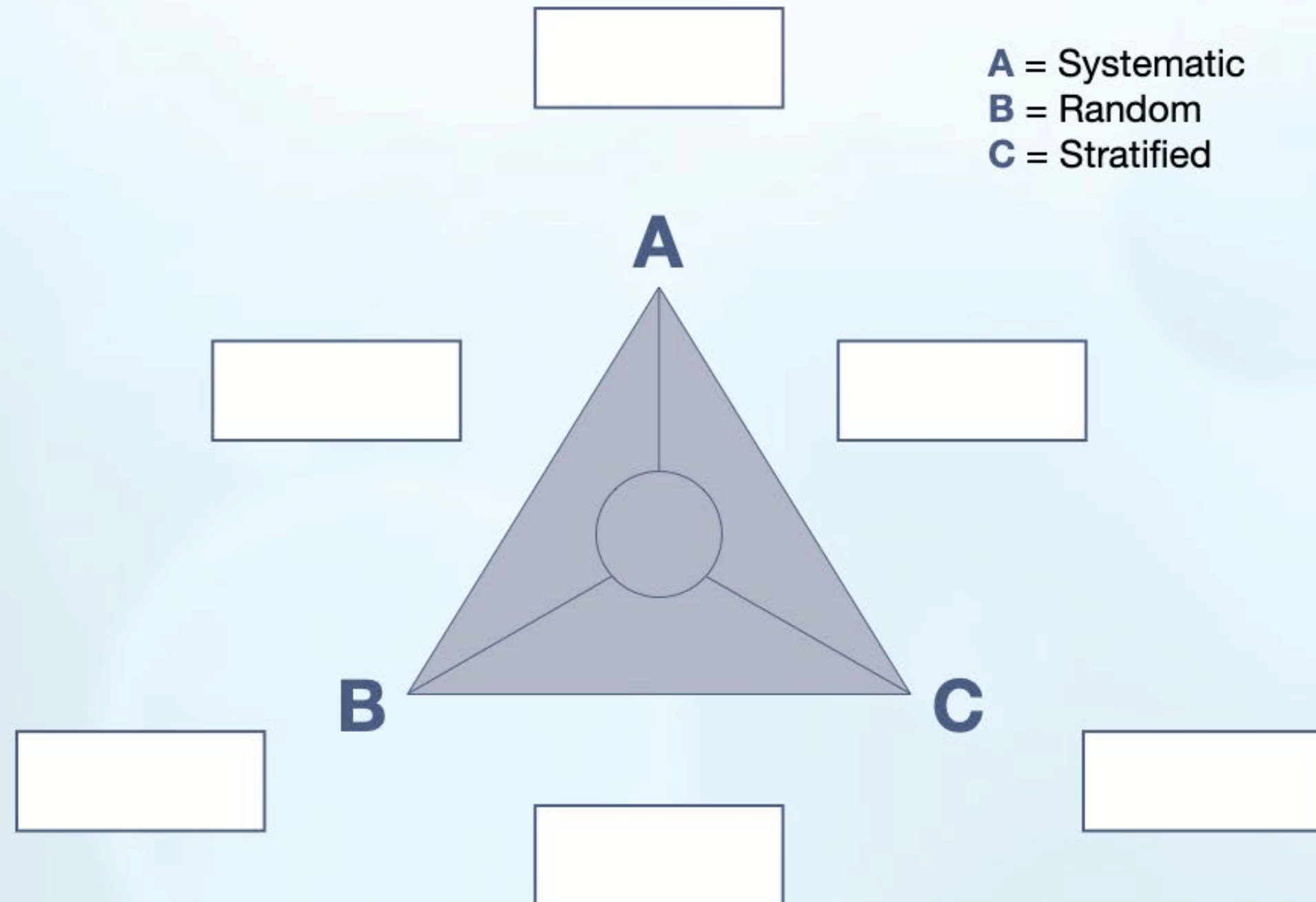
- In the boxes next to the letters students define the sampling techniques.
- In the box between they write one way in which the two types of sampling are similar but are different from the type of sampling opposite.
- In the centre of the triangle they write what all three types of sampling have in common.



Odd one out triangle

Over to
you...

Can you fill the
boxes on this
diagram?



Would this be
useful for your
students? Share
your thoughts with
the group.

Silent debate

Establishing Thinking skills in GCSE

Bethany Byers, Brakenhale School, Bracknell

My aim was to encourage our Year 11 students in thinking independently and critically about their fieldwork and answers given regarding this in Paper 3.

A common issue we have faced with readying students for this new paper is that they are typically fearful and wary of thinking of their fieldwork as something they can think critically about and generally taking ownership of it. They find it very hard to think independently and critically about their fieldwork as this, in their eyes, shows a weak field study, yet this ability to think critically gains many more marks in the exam. The students find it difficult to come up with their own suggestions of weakness and potential improvements of the fieldwork without a high level of teacher support, so the purpose of this project was to empower the students to think freely about their own field study independently critically. The overall aim is to create a critical thinking culture in the classroom. After a baseline exam, I began implementing the two areas of this project:

Critical thinking in practice

— The Geographical Association

Stage 1 – Thinking critically alone

The students were given a table in which had a variety of statements about their fieldwork; some of the statements were purposely controversial and all designed to make them think critically about their fieldwork. All the statements in the table related to one specific exam question that I was giving feedback about. Initially they were asked to tick or cross the box dependant on whether they agree or disagree with the statements. I found this first task helpful as every student had to engage and figure out what he or she thought about their fieldwork independently, without actually realising they were doing that!

	Agree or Disagree
Results of pedestrian counts are not helpful for my conclusions at all.	
Land use maps categories are always good at showing exactly what is there (They are representative).	
Counting people in a pedestrian count could be made less reliable by the people doing the counting (this is called human error).	
Having a very large number of categories on a land use map is always a good thing.	
The time of year we did the fieldwork impacted our results reliability.	
Doing the pedestrian count at different times did not impact our results.	
The EQA was helpful in proving my hypothesis.	
The EQA categories included everything I needed to fully assess the environments quality.	
Everyone in my group agreed on the EQA scores.	
I was fully able to provide or disprove my hypothesis using my methods.	
My results from the land use map can be 100% trusted.	
My results from the pedestrian count can be 100% trusted.	
The timings of the fieldwork day worked well and I got everything done that was needed.	

Stage 2 – Silent debate

Students now had to justify why they thought what they did. The statements were written out on A3 around the room and they do silently write down what they thought about each statement and why. This was excellently helpful in my cohort of students, as many of them can be reluctant to contribute in class. The anonymity of the task meant the comments written were much freer and critical in nature, creating balanced and justified debate.

Silent debate

Now we are going to go around the room and silently write our opinion on the sheets of paper. You **MUST** give a reason why you think what you do.

X – “I disagree because...”

Now we are going to summarise the debates back to the class. Be ready to feed back.

Stage 3 – Consolidation

As a group or in pairs they had to summarise the arguments given on the A3 pieces of paper and feedback whilst the rest of the class filled in a table related to the specific exam question the points fed into. In the case of my example, reliability vs non-reliability of fieldwork conclusions.

For one of your geography enquiries, to what extent were the results and methods of this enquiry helpful in reaching a reliable conclusion? (9 marks)

Not reliable	Reliable

Stage 4 – Structure grids

I then used a simple exam answer structure grid to allow the students to write their own independent answer, based on the critical thought developed throughout the lesson, yet through the structure grid the answer would also have a clear structure.

Question title: For one of your geography enquiries, to what extent were the results and methods of this enquiry helpful in reaching a reliable conclusion? (9 marks)

Intro sentence: My conclusions, which were based on the results from my chosen methods, were.....

If conclusions are reliable that means...		
EQA was helpful to reach reliable conclusions because...	Land use map was helpful to reach reliable because...	Pedestrian count was helpful to reach reliable because...
But it was also not reliable because...	But it was also not reliable because...	But it was also not reliable because...
Therefore my results did/didn't help me in drawing a reliable conclusion because of...	Therefore my results did/didn't help me in drawing a reliable conclusion because of...	Therefore my results did/didn't help mee in drawing a reliable conclusion because of...
To conclude: My conclusions were..... because of.....		

Argument Frames

- ‘Assess’ questions require students to consider different sides of a situation and draw a conclusion.
- Argument frames can help students structure answers to assess and evaluate questions for example (Edexcel B P2 SAM).

Enquiry question:

Argument of statement:

Reasons and evidence for the statement:

Arguments against:

Conclusion:

Enquiry question:

**Argument or
statement**

Reasons for the argument or statement

Conclusion

Source/s for
the argument or
statement

How reliable is the
source?

Evidence for or against

Arguments **against**

Useful phrases:

- Several reasons are by contrast
- The most important several factors have contributed to
- Is (partly) explained by
- The evidence suggests there seems to be a strong/weak argument for

Argument Frames

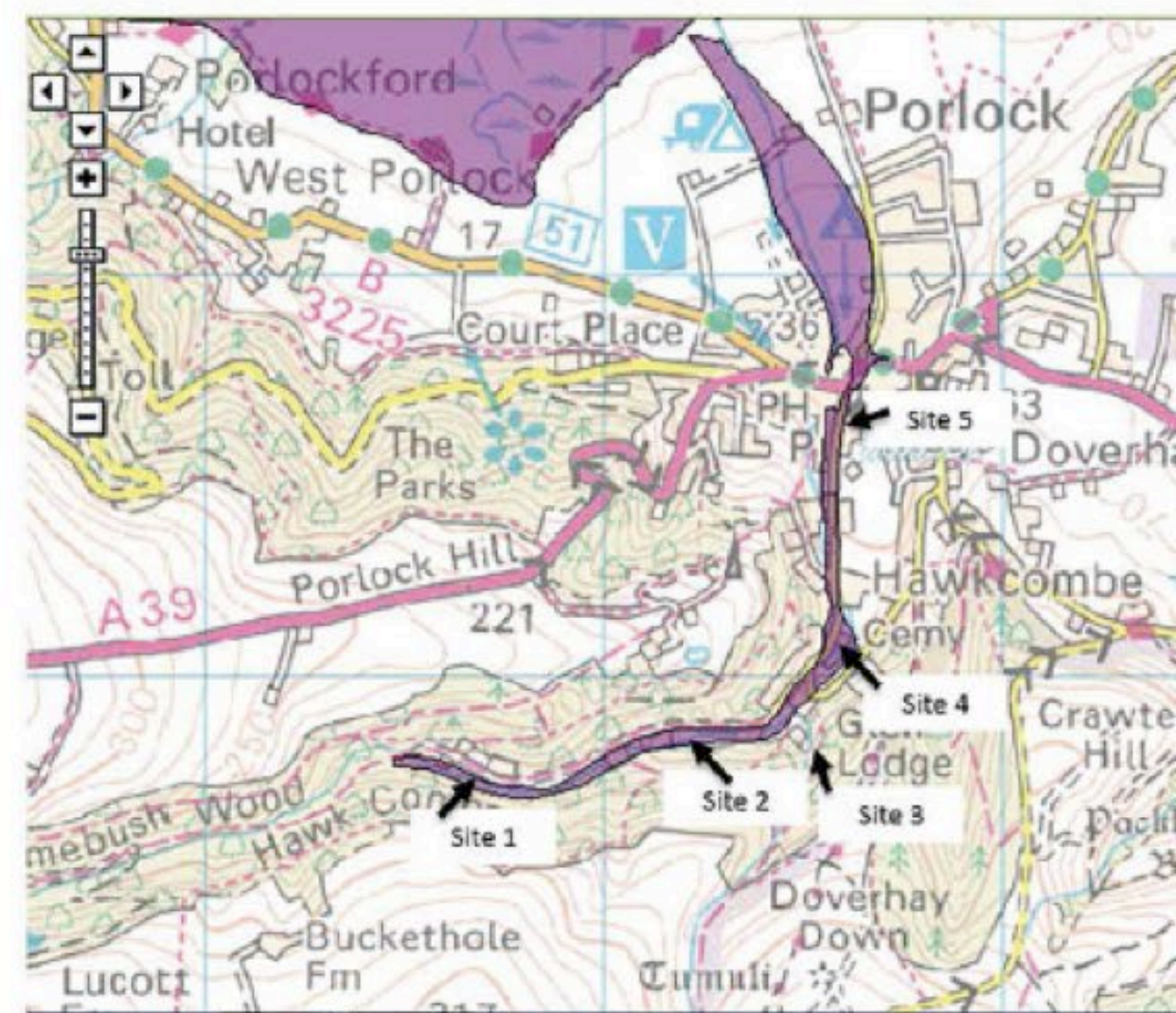
Over to
you...

- Sketch out an argument frame to help students structure an answer to this question.
- Share how you get on with the group.

(d) A group of 20 students chose to investigate the impact of changing river discharge and drainage basin characteristics on flood risk. They collected data at five sites along the Hawkcombe stream.

They had one afternoon to collect their data. They travelled between the sites in minibuses.

Assess the suitability of student's choice of sites to investigate the impact of changing river discharge and drainage basin characteristics on flood risk.



Scale



Reflection...

- Which of these ideas will you use with your students?
- Why do you think these will work in your context?
- How will you evaluate how useful they have been?

For more information, including videos and downloadable guides, to support high quality fieldwork please visit Pearson Edexcel at:

quals.pearson.com/fieldwork

